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Derrick Standardization Completed At Colorado Springs Conference

By A. F. Hinton
N. P. N. Staff Writer

COLORADO SPRINGS, June 19

THE semi-annual standardization conference of the American Petroleum Institute, which closed June 17, took on the appearance of a "showdown" session, after years of work, conferences, meetings, and conversation. It became apparent from the first that the delegates to the conference were on the job for the purpose of getting down to cases, that definite results were the goal to be striven for.

The result was that some of the meetings became battle arenas in which the opposing factions did not mince words nor spare each others' feelings in arguing their side of the matter under discussion. No blood was shed, and the committeemen forsook business for golf after the concluding session, but there were times during the meetings when the word acrimonious was about as mild as any that could be used in correctly describing the debates.

THE full story of the Standardization Program, what has been accomplished, its significance to the entire oil industry, how the oil companies, manufacturing companies and supply companies will be affected by it, in terms the oil marketer and refiner can understand, as well as the producer who is directly affected, is to be found starting on Page 58 of this issue. Included are articles by leaders in the standardization work, both among oil men and the manufacturers.

It is meetings such as these were that bring about results, and no one is the worse for having gone through a good fight, no matter which side wins. Some standardization meetings have seen both sides of the argument apparently willing to forego everything as long as harmony was maintained and as long as it was possible to defer positive action until the next meeting. This time, the disposition was to finish up the job if possible —to get results.

Compromises were effected only when long debate had shown that agreement was impossible otherwise.

There is no doubt that substantial progress all along the line of standardization was accomplished at this

J. Edgar Pew, chief skipper, amplified the erudition of all for his own edification—all words he admitted to acquiring at the meeting. Being ex-president of the A. P. I. and chief parent to standardization it was his show.

Capt. J. F. Lucey, pioneer standardizer presided over tool joints and attended all other meetings and played golf every day. His committee is one of the first to have a final report. —N. P. N. Staff Photo

T. D. Davies of The National Tube Co., Pittsburgh, champion golfer of the last meeting, came back this time with a new idea for a fool proof pipe gauge. He also knocked the ball around in the middle seventies.

meeting. One completed standard was added to the three which have already made the grade and been adopted as A. P. I. standard by the board of directors of the Institute. This new member of the elect circle of things entitled to wear a service stripe in the form of an A. P. I. monogram, is the derrick, one of the most important parts of the machinery of the search for oil. Other standards approached very nearly the

—N. P. N. Staff Photo

C. D. Watson, of the Carter Oil Co., Tulsa, represented the Mid-Continent district on a number of committees.

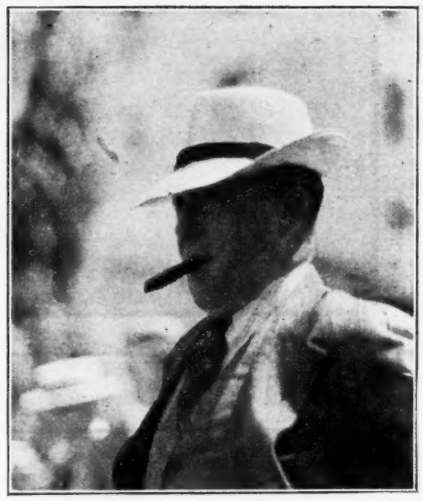
completed stage, and in all likelihood will enter that class at the next general meeting of the Institute, which is to be held in Tulsa early in 1927.

J. Edgar Pew, former president of the Institute, and general chairman of all standardization activities, was prominent in the affairs of the meetings, and presided over the sessions of the committee on standardization of iron and steel pipe, as well as over the two general sessions held. His wide knowledge of the oil business and his intimate grasp of the problems of the various committees brought forth the usual expressions of esteem and respect with which he is greeted at all meetings of the Institute.

The meetings were held in the rooms of the beautiful Broadmoor hotel, whose attractions are so many and so diversified that it was a tribute to the tenacity of the committeemen that they got any work done at all. There was a suspicion that there were some who never did get their minds altogether away from golf —but they attended the meetings, even though their thoughts were occupied with the difficulties of the wonderful 18-hole course only a few steps away from the hotel. Motor trips to the many scenic spots in the Rockies near Colorado Springs also were popular with the oil and supply men, but were not allowed to interfere with the work in hand. The meeting was arranged by Carl A. Young, of Dallas, who is director of the Institute's division of standardization, assisted by J. C. Stillwell, assistant to Mr. Young.

Derricks Standardized

THE arguments in the derrick committee were among the most violent and vitrolic of the conference, but the fact that this committee was able to announce that its work was complete except for a few details proves the earlier assertion that it takes an argument of this kind to get results. The outcome of this meeting was that oil operators and manufacturers of derricks agreed upon standard types of derricks for use in all oil fields of the country, adopted standard specifications as to size of base, size



—N. P. N. Staff Photo

W. K. Hughes, President of the Continental Supply Co., St. Louis, a veteran supply man, despite a scarcity of gray hairs, who with his associated interests has been actively cooperating in the standardization movement.

of water-table opening, heights, taper, and method of marking so as to identify A. P. I. standard derricks. The only matters left open by this committee are derrick capacities and the developing of a uniform method of calculating them. These two problems were turned over to a sub-committee of engineers of the various derrick manufacturers for solution. As soon as these have been cleared up, the derrick committee's recommendations will be sent to the A. P. I. directors for final adoption as standard.

Standardization of derricks as agreed upon by the committee results in the adoption of two series of derrick designs, either of which is to be considered as A. P. I. standard. One series comprises the so-called taper derricks and the other the ordinary type derrick which is prac-

No these are not brothers. They are John J. Durst, of the Oil Well Supply Co. at Casper, Wyo. and the man to the right with the less scientific looking specs is George A. Spang of Spang & Co., Butler, Pa., who confessed that he got his idea for a weldless jar while attending a wedding one night, and went straight to the shop, worked on it all night long and by morning had invented it.

—N. P. N. Staff Photo

D. Baker of the Noble Drilling Co., Cushing, Okla., and J. H. Hudson of Ardmore, Okla., being two drilling contractors, paired around during all the sessions to give the field atmosphere to the proceedings.

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—N. P. N. Staff Photo

C. R. Krause of the Lee C. Moore Co., steel derricks, Tulsa, Okla. and W. A. Trout of the Emsco Derrick and Equipment Co., Los Angeles, have just heard some one say the committee had decided to cut the base off all derricks.

tically standard today. Through standardization of base dimensions, interchangeability of derricks is accomplished, that is, derricks of the same height from different manufacturers can be erected on the same base. Standard derricks of the ordinary type will be the 122-foot height with 24-foot base, the 115-foot by 24-foot base, the 94-foot by 22-foot base, the 80-foot by 20-foot base, and the 73-foot by 20-foot base.

Taper Derrick Sizes

THE standard taper derricks are dimensioned with the 122-foot tower as the basis of calculation, with a base dimension of 26 feet and water table opening of 5 feet 6 inches in the clear. Tolerance of two inches is allowed in the base dimension. The standard specification is that all derricks from the same manufacturer shall have the same taper, the base dimensions of the heights lower than 122 feet to be fixed by the height of the derrick, the water table dimension and the taper established by the 122-foot derrick. The taper originally was fixed at 1 in 12, but the final action allows that to vary slightly with different manufacturers according to their varying construction, as long as they observe the height, base, and water table standard dimensions.

—N. P. N. Staff Photo

Harry W. Bishop, Jr., who has sold a few million miles of what goes around the hole in pipe these many years, participated in the sessions for the Harrisburg Pipe & Pipe Bending Co., Harrisburg, Pa. His father was one of the early oil field supply men.

The committee also changed the method of figuring heights of derricks. Under its final decision, derrick heights will be measured from the top of sill or joist to top of derrick leg, and not to top of water table, with 2-inch tolerance. Diameter of calf wheel shaft was adopted as 16 or 18 inches. Depth and style of grooves decided on call for the outer edges to have radius of one-half inch, radius of bottom groove one-half inch with angle of 60 to 80 degrees. This is practically the present type of groove. The 11-foot band wheel having previously been decided upon as standard, the committee decided to place the 12-foot diameter wheel in the standard as well.

Each derrick erected under A. P. I. specifications must be marked in a conspicuous place, preferably on bull wheel or on a side girt, by means of a plate carrying permanent letters and characters either cut into the plate or in relief. This plate shall show the name and address of manufacturer, height of the derrick, base dimensions, weight, safe carrying capacity, and the A. P. I. monogram. There may be some other items that will have to show on the plate, but that is all we can think of at the moment.

W. W. Fondren, vice-president of the Humble Oil & Refining Co., and national chairman of the derrick standardization committee, presided at its meetings here, and read the final report to the general session of all committees which concluded the conference today. Like J. Edgar Pew, Mr. Fondren has been an untiring worker for the success of standardization and has given the problem a great deal of his time and attention during the past four years.

Belt Committee Progresses

A. H. RINEY, of the Phillips Petroleum Co., Bartlesville, national chairman of the committee on the standardization of belting, presided over the meetings of that body, and reported that very substantial progress had been made. After considerable discussion with the manufacturers present, the committee decided to modify somewhat the tentative specifications under which it has been working. This modification was slight, having to do with elastic limit of belts coming under A. P. I. specifications. The rubber belt manufacturers took part in the discussion for the first time since belt standardization has been under way, and accepted the specifications after the modifications mentioned above had been agreed to. The manufacturers said that they would stand back of the A. P. I. belts the same as they had always stood back of their other products.

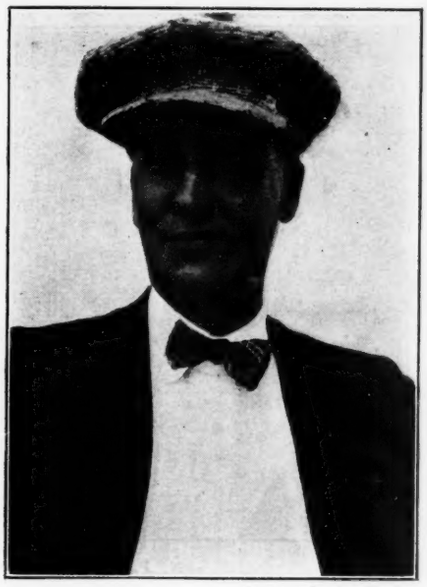
Mr. Riney again urged that oil company purchasing agents buy belts according to A. P. I. specifications, in order that they may have a thorough testing, and in order that defects in the specifications may be noted and corrected. He stated that belts used under these specifications in the past months have given highly satisfactory service. The fatigue test, which was omitted from the tentative specifications, still has not been developed, and considerable other research work remains to be done before the standardization of oil field belts is complete.

Boilers in Statu Quo

THE committee on standardization of boilers was presided over by A. B. Steen, chief engineer of The Texas Co., producing division, and national chairman of that committee, another warhorse of standardization, and an engineer looked up to with respect by all members

—N. P. N. Staff Photo

A. Milne, is not only an expert on steel for Jones & Laughlin of Pittsburgh, but also with a bit of it on the golf course.



—N. P. N. Staff Photo

L. L. Langworthy, of the Midwest Refining Co., Casper, Wyo., acted as chairman of the committee on tanks in the absence of Mr. Vandever. He talked the language, having driven rivets for a living himself.

of his profession, as well as by laymen. Mr. Steen reported that the work of the boiler committee had not reached the point where it could make any report as to work done. Tentative specifications have been adopted but cannot be made final at this time. One point at issue concerns the size and location of handholes, and Mr. Steen stated that manufacturers would be given three or four months longer to present definite objections to the committee's specifications as to this matter. At the end of this time, he intimated, the committee would make the specifications final, unless valid objections had been given.

Cable Tool Drilling Joints

CABLE tool drilling joint standardization is one of the Institute's completed projects along with rig irons, tubular goods, and derricks. Thomas Fleming, Jr., vice-president of the Oil Well Supply Co. and national chairman for this work, presided over meetings of the committee at the conference and read its report. Dimensional standards and specifications covering cable tool drilling joints were adopted in October, 1924, the work since that time having been concerned chiefly with the problem of templates and master gauges. These have now been completed and are being shipped to the various manufacturers. Mr. Fleming stated that the work is now practically completed, and that any operator will be able to get A. P. I. standard tool joints within the next 60 or 90 days. It will be up to the operator, he said, to check over his old tool joints before attempting to use them with A. P. I. joints, adding that A. P. I. joints will be plainly marked with the official monogram and that no confusion should result from this.

—N. P. N. Staff Photo

Glen Skinner, of Black, Syvalls & Bryson of Bartlesville, Okla. came up because he heard that bolted tanks might be deprived of their bolts.

Rig Irons Held Up

H. J. LOCKHART, of the Parkersburg Rig & Reel Co., national chairman of the committee on standardization of rig irons, was prevented by illness from attending the conference. He was represented by William Schwemlein, of the Parkersburg company, who has been prominently identified with the rig iron standardization movement for several years past.

Standardization of rig irons was announced as a completed project some time ago, and manufacturers have made preparations to begin turning out the standardized article on short notice. However, the questions as to dimensions of keys and key ways and their taper, and of tolerances has delayed the actual beginning of manufacture. This was still unsettled at the close of the conference. An agreement reached here will be submitted to the manufacturers for approval, there not having been enough of them at the conference to constitute a quorum, and it is possible that the final standardization of rig irons will become an accomplished fact within a short time.

Rotary Drilling Equipment

ONE of the big upsets of the conference was action taken by the rotary committee on threads for tool joints. After having decided upon the Acme form of thread as A. P. I. standard, and issuing tentative specifications to that effect, the committee at this meeting reversed itself and decided finally upon the V-type thread as standard. It appears that a number of rotary tool joints made to A. P. I. specifications and with the Acme thread have been tried out in actual service in the field in recent months, and that they had been unanimously condemned by the drilling contractors making the tests. This showing was sufficient to cause the committee to change its mind on the matter. Californians were the principal proponents of the Acme threads, the proposition having been opposed by the Mid-Continent operators from the start.

How to Get Information

CLEVELAND, O., June 19.—The small manufacturer, particularly the one who has not been closely in touch with the progress of the A. P. I. standardization, will obtain information on specifications, tolerances, and costs from the Division of Standardization, C. A. Young, director, 1508 Kirby Building, Dallas, Texas.

Costs of gauges and templates will vary greatly with the nature of the article.

—N. P. N. Staff Photo

Herbert W. Ladd, Midwest Refining Co., Casper, Wyo., and Carl J. Hochenauer of the A. O. Smith Corp., Milwaukee, Wis., stayed close by all committee sessions.

California Agrees

F. F. HILL, of the Union Oil Co. of California, chairman of the California district sub-committee, announced that California was hopelessly at variance as to the two types of threads, but that, in the instance of harmony and standardization, he would throw that state in line for the V-type thread, thus making it unanimous.

Capt. J. F. Lucey, national chairman of this committee, presided at its hearings, but its report was read by E. E.

—N. P. N. Staff Photo

W. H. Laury, Axleson Mach. Co., Los Angeles was one of a big California delegation that was in every meeting.

—N. P. N. Staff Photo

Wm. A. Knapp, secretary of the Butler Mfg. Co., Kansas City and in charge of their oil division, discussed bolted and the smaller tanks with the committee on tank storage.

Greve, of the Oil Well Supply Co., who has been in the thick of the standardization battle from its inception. He stated that the main problem of the committee had been to produce interchangeability, and that satisfactory progress was being made. One big accomplishment, he said, was the standardization of sprockets and chains, which has now practically been completed. Charles R. Weiss, of the Link-Belt Co., Indianapolis, is chairman of the special sub-committee on this subject. The committee has not been able to arrive at final decision as to rotary hose. Length of standard grief stem also has not been decided and has been the subject of a great deal of discussion. Mr. Greve intimated that the committee does not propose to insist upon standardization of rotary tables and machinery, on account of the fact

—N. P. N. Staff Photo

H. G. Texter, Standard Seamless Tube Co., in charge of their Tulsa, Okla. office.

—N. P. N. Staff Photo

P. C. Jones, President of the S. M. Jones Co., Toledo, O. who for years has been teaching the oil industry that such a seemingly simple thing as a sucker rod must have real science in it to lift the oil economically.

that it might stifle individuality in development of new designs and improvements.

Wire Lines a Battleground

C. C. SCHARPENBERG, assistant manager of the Standard Oil Co. of California, and national chairman of the committee on standardization of wire lines and manila cordage, had a hectic week trying to make the wire rope manufacturers accept the A. P. I. tentative specifications, and trying to prevent them from forcing him to adopt the specifications set forth by the manufacturers. He was ably seconded by S. J. Dickey, of the General Petroleum Co. of California, chairman of that district's sub-committee, and secretary of the sessions but he was out-numbered by the wire line makers, nevertheless. This was a real battle all along the line, and is not yet concluded.

The wire line work apparently has now narrowed down to three principal specifications, designated by letters instead of by numbers as first suggested. Wire lines coming under the trade classification "plow steel" will be known as grade "J," A. P. I., those known as extra strong will be known as grade "L," and cast steel lines will be designated grade "N." Mr. Scharpenberg stated that operators desiring to buy wire lines meeting A. P. I. specifications in these three grades could get them from most manufacturers. It was decided to write separate specifications for galvanized lines, guy lines, torpedo lines, and other wire lines not classed as wire rope generally. Tentative specifications already promulgated for manila cordage were not changed at this meeting.

Standardization of pumping equipment and engines as applied to oil production

—N. P. N. Staff Photo

C. B. Craig, field representative for the Bessemer Gas Engine Co., Grove City, Pa., seized on the meeting as an excuse to show his husky young nephew the wild west. Craig being a bachelor, had the time of his life. His only complaint was it took so long and so much food to fill the young man up after a trip into the mountains.

now has been nearly completed after substantial progress had been made at the conference, acording to W. L. McLaine, of the General Petroleum Co. of California, national chairman. He reported that only a few details now remain to be cleaned up before the committee is ready to make its final report. The work on sucker rods has been completed, working barrels have been completed with standards in final form and the tubing question also has been decided. The committee adopted the 2-inch, 2½-inch and 3-inch as standard tubing sizes, and these were incorporated in the specifications of the tubular goods committee. The work on plunger parts and valves is still incomplete, Mr. McLaine said, and the committee has gone as far as possi-

—N. P. N. Staff Photo

Wm. M. Neckerman, superintendent The Youngstown Sheet & Tube Co., Youngstown, O. attended to learn just how some one else thought he really ought to make pipe.

ble on standardization of engine parts. Standard methods of rating horsepower of engines is still under discussion. Methods of gauging have been adopted and this work has been turned over to the committee on gauging practices for correlation with its other work.

Tankage Work Getting Started

L. LANGWORTHY, of the Midwest Refining Co., acted as chairman of the committee on standardization of steel storage and production tanks, and reported that his committee had had a satisfactory meeting and had at least made a start on its work. He stated that his committee had tentatively adopted a standard sheet for large tanks, making it six feet vertically by 15 feet horizontally. By using this standard sheet he said, steel storage by any manufacturer would be built so that its height would be in multiples of six and its diameter in multiples of five.

Mr. Langworthy urged upon the industry the importance of taking some interest in the tank standardization work, and hoped that if there were objections to the proposed standard sheet, they would be voiced, as it was set up to be shot full of holes, if necessary to arouse interest. As to field tanks, he stated that data at hand were insufficient to do any work on and that the committee will send out a questionnaire to the industry on this subject, giving all operators a chance to express a preference as to style and size of this class of steel storage.

Tubular Goods Discussed

J. EDGAR PEW, national chairman, presided over the deliberations of the committee on tubular goods for oil country use, one of the Institute's completed projects. Mr. Pew stated that the only work the committee had to do at this time was in amplification of present specifications and in clarifying previous adoptions. There were no important changes in the specifications. Gauging practice had engaged the attention of the committee to a considerable extent. The original specifications for casing had stated that gauging should be done according to standard American practice. Investigation developed that there was no such thing as standard American practice in this regard, and the gauging committee was given the job of devising a standard practice as far as it concerns the oil industry. Paul M. Mueller, of Pratt & Whitney, who has been prominent in all discussion connected with gauging, spoke on the work of the gauging committee.

Registrations at Semi-Annual Standardization Conference, A.P.I. Col. Spgs., June 15-17

Allison, R. E., Shreveport, La.
Anderson, Hallam H., Shell Co. of California, Los Angeles.
Archer, M. T., National Supply Co., Toledo.
Baker, D., Noble Drilling Co., Cushing, Okla.
Barton, J. M., National Tube Co., Elwood City, Pa.
Bearce, H. W., Bureau of Standards, Washington, D. C.
Bell, E. L., Shaffer Oil & Ref. Co., Tulsa.
Bernsen, Franklin E., Lucey Mfg. Corp., Tulsa.
Bevan, Lawrence W., Hazard Mfg. Co. Wilkes-Barre, Pa.
Bishop, Harry W., Jr., Harrisburg Pipe & Pipe Binding Co., Harrisburg, Pa.
Black, L. J., Beaumont Iron Works, Beaumont, Texas.
Bowlus, Glenn H., General Petroleum Corp. Los Angeles.
Bowman, A. M., Humble O. & R. Co., Houston.
Broderick, John K., St. Louis, Mo.
Broderick, M. H., Broderick Boiler Co., Muncie, Ind.
Brown, D. R., O. C. S. Mfg. Co., Coffeyville, Kans.
Bruce, N. P., Rubber Assn. of America, Akron, Ohio.
Burgess, L. P., D. & B. Pump & Supply Co., Los Angeles.
Butts, A. E., A. O. Smith Corp.
Backon, F. M., Mohawk Drilling Co., Ardmore, Okla.
Barr, Wm., Reagan Forge & Engr. Co., San Pedro, Calif.
Buese, J. N., Worthington Pump & Mach. Corp., Denver.
Caldwell, George R., A. Leschen & Sons Rope Co., St. Louis.
Campbell, A. F., Fenwick Reddaway Mfg. Co., Tulsa.
Craig, C. B., Bessemer Gas Engine Co., Grove City, Pa.
Cranfill, T. B., Cranfill Bros. Oil Co., Dallas.
Crotty, John T., Republic Supply Co., Tulsa.
Cunnigham, James E., Wheeling Steel Corp., Wheeling, W. Va.
Cook, F. B., Oil Well Supply Co., Florence, Colo.
Dale, D. R., The S. M. Jones Co., Toledo.
Davies, T. D., National Tube Co., Pittsburgh.
Daw, Mark W., Shell Co., of Calif., San Francisco.
Denni, Harry, Kansas City Struct. Steel, Kansas City, Mo.
Dilcher, H. S., Petroleum Iron Works Co., Sharon, Pa.
Dudley, R. L., The Oil Weekly, Houston.
Duff, R. L., Standard Oil Co., of N. J., Roselle, N. J.
Dickey, S. J., General Petroleum Corp., Calif., Los Angeles.
Durst, John J., Oil Well Supply Co., Casper, Wyo.
Endacott, Paul, Phillips Pet. Co., Bartlesville, Okla.
Evans, W. W., Rubber Assn. of America, Akron, Ohio.
Egan, Wm. E., Oil Well Supply Co., Denver.
Evans, W. S., Lucey Mfg. Corp. of Texas., New York.
Fondren, W. W., Humble Oil & Refin. Co., Houston.
Faulkner, D. S., Union Tool Co., Torrance, Calif.
Fleming, Thos., Jr., Oil Well Supply Co., Pittsburgh.
Fritz, Chas. H., Oklahoma Iron Works, Tulsa.
Gibbons, A. G., A. O. Smith Corp., Milwaukee.
Golding, D. S., Oil Operator, Wichita Falls, Texas.
Greve, E. E., Oil Well Supply Co., Pittsburgh.
Hamaker, R. G., Humble Oil & Ref. Co., Houston.
Hampton, L. C., Union Oil Co. of Calif., Los Angeles.
Hanrahan, R. V., Humble Pipe Line Co., Houston.
Harshton, Z. F., Imperial Belting Co., Chicago.
Hazeltine, Ben, Wheeling Steel Corp., Wheeling, W. Va.
Herpel, Harry C., Natl. Tube Co., McKeesport, Pa.
Higgins, Edwin, Secty. Chamber of Mines & Oil Los Angeles.
Hill, F. F., Union Oil Co. of Calif., Los Angeles.
Hinton, A. F., National Petroleum News, Tulsa.
Hochenauer, C. J., A. O. Smith Corp., Milwaukee.
Hoffman, Albert H., Natl. Pigments & Chemical Co., St. Louis.
Hooper, J. E., Sinclair Oil & Gas Co., Houston.
Howe, James F., Amer. Steel & Wire Co., Worcester, Mass.
Hughes, Wm. K., Continental Supply Co., St. Louis.
Harris, D. B., Humble Oil & Refg. Co., Shreveport.
Harris. H. M., Lucey Mfg. Corp., Chattanooga, Tenn.
Haseltine, R. A., Guiberson Corp., Dallas.
Hathaway, Chas. E., Stanley Belting Corp., Chicago.
Hilton, L. D., Reagan Forge & Engr. Co., Houston.
Hudson, I. H., Drilling Contractor, Ardmore, Okla.
Jaques, G. H., Midwest Refining Co., Casper, Wyo.
Jones, P. C., The S. M. Jones Co., Toledo.
Jones, Roy B., Panhandle Refg. Co., Wichita Falls, Tex.
Keim, Lester, Oil Well Supply Co., Los Angeles.
Klingler, G. H., Wickwire Spencer Steel Co., Emlenton, Pa.
Kesinger, E. V., Empire Companies, Bartlesville, Okla.
Krause, C. R., Lee C. Moore Co., Tulsa.
Kunze, A. D., Rubber Assn. of America, N. Y. City.
Knapp, W. A., Butler Mfg. Co., Kansas City, Mo.
Knight, C. S. Jr., American Steel & Wire Co., Chicago.
Ladd, H. W., Midwest Refining Co., Casper, Wyo.
La Fonte, C. B., U. S. Rubber Co., Denver.
Langworthy, L. L., Midwest Refg. Co., Casper, Wyo.
Laury, W. H., Axelson Mach. Co., Los Angeles.
Leschen, Harry J., A. Leschen & Sons Rope Co.
Lucey, J. F., Lucey Petroleum Co., Dallas.
McAnnelly, Lee V., Rossendale, Reddaway B. & H. Co., Dallas.
McCune, L. E., Murray Rubber Co., Trenton, N. J.
McLaine, W. L., General Pet. Corp. of Calif., Los Angeles.
McConnell, Glenver, Roxana Pet. Corp., Tulsa.
Mapes, Clarence T., Oil Well Supply Co., Crafton, Pa.
Marks, W. G., John A. Roebling Sons Co., Los Angeles.
Markt, Howard, Natl. Petroleum News, Cleveland, O.
Martin, P. W., Smalley Gen. Co., Bay City, Mich.
Morris, Clarence, Oil & Gas Journal, Tulsa.
Milne, A., Jones & Laughlin Stell Corp., Pittsburgh.
Mueller, Paul M., Pratt & Whitney, Hartford, Conn.
Murray, C. M., Murray Tool & Supply Co., Tulsa.
Minor, B. S., Reagan Forge & Eng. Co., San Pedro, Calif.
Mohler, F. W., International Derrick & Equipment Co., Dallas.
Neckerman, Wm. M., The Youngstown Sheet & Tube Co., Youngstown, Ohio.
Nowery, B. M., Palmer Corp., Shreveport, La.
Olson, A. O., Noble Drg. Co., Ardmore, Okla.
Peake, A. W., Midwest Refining Co., Casper, Wyo.
Pew, J. Edgar, Sun Oil Co., Dallas.
Pinckney, D. H., National Tube Co., Lorain, Ohio.
Phelps, F. S., Amer. Steel & Wire Co., San Francisco.
Porter, Hollis P., Gypsy Oil Co., Tulsa, Okla.
Prior, F. O., Midwest Refining Co., Casper, Wyo.
Patrick, S. F., Patrick Drilling Co., Stroud, Okla.
Platt, Warren C., National Petroleum News, Cleveland, O.
Regan, Jos. M., Regan Forge & Engr. Co., San Pedro, Calif.
Reuff, Geo. A., Natl. Tube Co., McKeesport, Pa.
Riney, A. H., Phillips Pet. Co., Bartlesville, Okla.
Runkle, Harry M., International Derrick & Equip. Co., Columbus, O.
Sanderson, A. D., Sandard Oil Co. of N. J., Elizabeth, N. J.
Scarff, Howard R., The Rossendale-Reddaway Belting & Hose Co., Newark, N. J.
Scharpenberg, C. C., Standard Oil Co. of California, Bakersfield, Cal.
Schwemlein, Wm., The Parkersburg Rig & Reel Co., Parkersburg, W. Va.
Scott, H. B., Wheeling Steel Corp., Wheeling, W. Va.
Seaver, W. H., U. S. Steel Products Co., San Francisco, Cal.
Shafer, Burt, Wheeling Steel Corp., Wheeling, W. Va.
Sherman, C. H., Union Oil Co. of California, Fort Collins, Colo.
Shouvlin, D. R., Superior Gas Engine Co., Springfield, Ohio.
Sleeman, Earl C., Pittsburgh Steel Products Co., Monessen, Pa.
Spang, G. A. Spang & Company., Butler, Pa.
Staggs, H. M., Atlantic Oil Producing Co., Shreveport, La.
Steen, A. B., The Texas Co., Houston.
Streeter, Claude O., Graton & Knight Co., Worcester, Mass.
Suman, John R., Rio Bravo Oil Co., Houston.
Sunderland, Charles C., John A. Roebling Sons Co., Trenton, N. J.
Swigart, T. E., Shell Co. of California, Hollywood, Cal.
Skinner, Glen, Black, Sivalls & Bryson, Bartlesville, Okla.
Teats, M. W., R. & J. Dick Co., Inc., Passaic, N. J.
Texter, H. G., Standard Seamless Tube Co., Tulsa.
Timbs, Edward, Union Tool Co., Los Angeles.
Tobin, W. B., International Derrick & Equipment Co., Los Angeles.
Trax, D. L., Gypsy Oil Co., Tulsa.
Trout, W. A., Emsco Derrick & Equipment Co., Los Angeles.
Watson, C. D., Carter Oil Co., Tulsa.
Weiss, C. R., Link Belt Co., Indianapolis, Ind.
Wherry, Henry P., Rossendale-Reddaway Belting & Hose Co., Newark, N. J.
Whyte, George S., Macwhyte Co., Kenosha, Wisc.
Williams, E. H., National Supply Co., Carnegie, Pa.
Wilson, R. A., Guiberson Corp., Dallas.

Standardization of Value to Supply Company as well as Operator

By Thomas Fleming, Jr.,
Vice-president, Oil Well Supply Co.

The accompanying article was written by Mr. Fleming in compliance with National Petroleum News' request for a statement on the effect, so far as can at present be estimated, of standardization on the field supply company. The author's absence from his headquarters for several weeks caused delay in preparation of the article, hence it was not received in time to publish it in the section of this issue devoted to articles on standardization written by a number of leaders in the work. —Editor.

THE tremendous development of the oil industry over a short period of time has naturally resulted in frequent changes in the equipment required. Every operator in the oil fields has been constantly striving to obtain more efficient equipment and as the necessity for deeper drilling has developed, heavier equipment has been demanded and built. The development work has of necessity originated in the field and been born of experience of practical men. Every successful operator has had his own ideas as to what equipment should be used and in many instances has designed special equipment to satisfy his ideas.

The supply company of course has been compelled not only to keep pace with the development of the industry but also to cater to all of the various special requirements of the operation. This has resulted in the carrying of many duplicate stocks, causing higher cost of manufacture, large investments in stocks, and consequently higher cost to the consumer. The Oil Well Supply Co., at one time built 250 different casing heads and 270 different drive shoes. The difficulties of economically manufacturing and properly stocking under these conditions can be readily appreciated.

There have also been many deliberate moves on the part of small shops to set up local standards in order to receive a monopoly of business in that particular district. In the rotary fields there are so many different kinds of fish tail bit joints that it is impossible for the supply company to stock them. This has worked a hardship not only on the large supply company but also on the operator.

The quality requirements of standardization will to a great extent eliminate unfair competition in offering inferior articles. This will protect the supply company by placing all on the same basis in submitting quotations. Interchangeability is going to benefit the supply company in reducing stocks and in manufacturing. As an example, under present conditions it is often necessary to ship a templet of a tool joint to the factory where new tools are ordered to be used with those of some other manufacturer. This results in unnecessary delay and in interference with proper scheduling of production. The A.P.I. cable drilling tool joints recently adopted will shortly eliminate this trouble as a proper control has been set up to insure interchangeability.

Standardization must, however, exercise only a general control and must not go into such specific detail as to eliminate originality of design and improvements which are vital to progress. Any attempt at detail specification of equipment parts would be very dangerous and would be opposed by the supply companies as a retroactive step.

One of the most important duties of the supply company is to give service. Standardization will lead to better service in simplifying stocks, interchangeability and a better understanding of the requirements of the producer by having standard specifications. Last, but not least, standardization should secure more profit to the supply company and lower prices to the operator. All of the large supply companies are in hearty accord with the present standardization movement of the A.P.I. and have donated the services of their engineers and manufacturing organizations to the various standardization committees. The harmonious operation of these committees of producers and manufacturers has been noteworthy and has contributed greatly to the success of this standardization movement.

Standardization Toilers Double in Golf

COLORADO SPRINGS, COLO., June 19.—About 50 players took part in the golf tournament on the Broadmoor Hotel grounds Friday, following the close of the semi-annual standardization conference of the American Petroleum Institute.

Dudley Golding, independent operator, of Wichita Falls, who is the amateur golf champion of Texas, won the special Farish trophy for low net score. W. S. Evans won the prize for the low gross score in the first flight; Capt. J. F. Lucey, Independent operator, won first prize; T. D. Davies, National Tube Co., second prize and R. A. Wilson, Guiberson Corp., third prize.

In the second flight, H. G. Texter, of the Standard Seamless Tube Co., won first prize; R. G. Hamaker, Humble Oil & Refining Co., second prize and E. E. Greve, Oil Well Supply Co., third prize.

In the third flight, first honors went to H. M. Staggs, Atlantic Oil Producing Co.; second prize was won by D. B. Harris, Humble Oil & Refining Co. and third prize by Lester Keim, Oil Well Supply Co.

Coming Meetings

Minnesota Petroleum Association, Green Lake Country Club, Spicer, Minn., June 25.

Nebraska Independent Oil Men's Association, district meeting, Yancey Hotel, Grand Island, Neb., June 29.

Oklahoma Oil Jobbers Association, Oklahoma City, July 8.

Pennsylvania Grade Crude Oil Association, Annual Meeting, McLure Hotel, Wheeling, W. Va., July 8.

Wisconsin Independent Oil Jobbers' Association, Hotel Whiting, Stevens Point, Wis., July 14.

Michigan Independent Oil Men's Association, Grand Hotel, Mackinac Island, July 15, 16.

American Petroleum Institute, General Committee on Fire Prevention, Hotel Statler, St. Louis, July 22.

Chicago Oil Men Play At Crystal Lake

CHICAGO, June 20.—The Greater Chicago Oil Men's Club has arranged to hold a field day this year. Officials believe it will become an annual event. Thursday, June 24, is the date and the place Crystal Lake Country Club. Luncheons of the Club held each Thursday noon at the Auditorium usually are attended by upwards of 50 men, and it is hoped many more than that will attend the field day.

All active members of the G. C. O. M. C. are jobbers in business in Chicago or jobbers who sell in competition to Chicago jobbers. That includes Independents as far south as Hammond, Ind., as well as Oak Park and Evanston, Ill., to the west and north. Refiners and carload marketers are admitted to associate membership and at weekly luncheons they constitute about half the gathering. The regular practice is to have a speaker to talk 10 or 15 minutes on some timely subject interesting to oil men.

Pa. Grade Assoc. to Meet

CLEVELAND, O., June 19.—The third annual meeting of the Pennsylvania Grade Crude Oil Association will be held at the McLure Hotel, Wheeling, W. Va., July 8. It will begin at 2 P.M. Addresses of interest to the members, reports on the association's advertising campaign and election of directors will be features of the meeting.

Ohio Jobbers Attack Sealers' Unfair Zeal in Condemning Good Pumps

CLEVELAND, June 19.

LOCAL sealers of weights and measures who have been overzealous in condemning gasoline pumps in several parts of Ohio, were denounced at the summer meeting of the Ohio Petroleum Marketers' Association in Cleveland, June 17 and 18. Resolutions were adopted condemning activity of sealers in confiscating many pumps which were held to be accurate measuring devices but which did not include the latest wrinkles made by the more aggressive manufacturers. Much of sealers' activities has been branded as confiscatory and the marketers will work for the removal from office of persons in the department of weights and measures whom members of the Ohio association regard as unfair.

The gasoline pump trouble in Ohio is the result of delayed enforcement of the weights and measures specifications published July 1, 1923, as "Circular No. 7." These specifications which regulate the type of equipment which may be used in Ohio, the manner of installation and number of indicators of quantity of liquids sold through self measuring devices, lay dormant from the time of their promulgation until Feb. 5, 1926, when the state bureau issued a circular, No. 60, which prodded the local sealers into action.

Meet Major Qualifications

THE second paragraph of "Circular No. 60" follows:

"The following interpretation is placed upon some of the most important specifications that a great many of the present pumps do not meet. All devices installed after Jan. 1, 1926, must meet all the specifications to get approval without restrictions. This means we want all specifications met by manufacturers as soon as possible in order for them to secure an unqualified approval but in the meantime devices may be allowed to be used for a time when major qualifications are met, with the understanding that the device is not fully up to standard and that an effort be made by all concerned to secure equipment within a reasonable time."

Marketers interpret this as meaning that all accurately measuring pumps installed before Jan. 1, 1926, shall be continued in service without interference from sealers as long as they are kept in good repair and do not short measure gasoline buyers.

Attention was called in "Circular No. 60" to sections of "Circular No. 7," which is the manual of all local sealers. These sections which were to receive special notice pertained to the plumb and level of the installation; sensitiveness of measurement; constancy of delivery; indication of delivery required, otherwise the automatic registering of the volume delivered; shape of pointer and indicators to permit accurate reading; design of visible pumps to be such as to reduce errors due to parallax; diversion of measured liquid, and prohibition of construction designed to assist fraud.

Exemptions Are Noted

ONE of the devices aimed to promote accurate reading in visible pumps was the placing of three indicators at intervals of 120 degrees around the inside of the bowl pumps installed on and after Jan. 1, 1926, but this provision was not applicable to pumps installed before that date except when vision of the contents of the bowl was obscured. Oil men charge that local sealers, in some cases, have condemned pumps with two indicators which were particularly exempted from immediate application of the resurrected specifications. This exemption was set forth again on April 23, 1926, in "Circular No. 62."

Complaints evidently reached the state sealer's office because on May 15, last, another circular was sent out, No. 63, which contained the following paragraph:

"The state of Ohio wants the very best pumps that can be built to show the customer that they receive all they pay for, and the pump companies agree to build, and are building such a device. Our desire is to give them sufficient time to make the installations and the second paragraph No. 60 does not say that all pumps that do not meet all specifications should be condemned and put out of use at once, but rather to inform the owner or operator that it is not up to standard and that it depends upon how well he does what can easily be done, to make it meet the major requirements, and the good condition that he keeps it in, will determine how long its use will be allowed to continue."

Committee to Protest.

A COMMITTEE consisting of Walter C. Bell, Gerkins Oil Co., Dayton; Clarence Wagner, Central Ohio Oil Co., Columbus and Field Secretary Wayne C. Hughes was appointed to protest the ruling to J. C. Tinkey, deputy in charge of the weights and measures regulations applying to gasoline pumps as unfair and arbitrary and, if necessary, to take the case up with Gov. A. V. Donahey.

The new enforcement was brought into the convention discussion by R. C. Heil, Commercial Oil Co., Cleveland, who said several of his pumps had been condemned by local sealers, and had been ordered out on 30 days' notice. Mr. Heil said he had received a synopsis of a ruling, Circular No. 60, about March 1 and found that it was effective as of Jan. 1. He said he was convinced that many oil companies throughout the state had no knowledge to date of the ruling, but the local sealers were acting under it in an extremely unfair manner.

Mr. Heil said, and other state oil men concurred that no investigation had been made, or was being made, as to whether there were any inaccuracies in the volume dispensed by gasoline pumps throughout the state; but that pumps were being ordered out simply if they did not comply strictly with the provisions of the regulations.

Impossible to Follow

"MANY of these regulations could not possibly be followed with old type pumps now in use," Mr. Heil asserted. "The oil companies watch their equipment to keep it measuring accurately which is the only thing the public is interested in. The oil men recognize that great improvements have been made in pumps of late years and, as they put new equipment in, the old type pumps will be scrapped. To call on the oil companies to remove them on such short notice as 30 days is extremely unfair. The question of accurate measurement is the only point on which the state authorities should condemn pumps."

Secretary Hughes said that three or four provisions of the regulations could not possibly be complied with in the case of old type pumps. For example, he said, one provision called for doing away with any pump where the optical illusion caused by looking up through the glass of the bowl, could not be removed by putting the marker inside the bowl. This was impossible with pumps dispensing colored gasoline, it was said.

Another provision regarded as arbitrary was that every pump in use must contain direct evidence to the patron that the drain from the bowl to the underground tank was closed. With the drain open it is possible, of course, for some of the gasoline in the bowl to drain back while the most of it is flowing through the hose into the customer's tank.

Another provision was that markers inside the bowls should contain the word "gallon" as well as the numeral designating the units of measurement.

One provision applying to non-visible pumps states there shall be dials on two sides of the pump showing the volume dispensed. This was impossible with much of the old equipment, the oil men said.

Revised specifications have been sent to the printer, Mr. Tinkey told National

Petroleum News by telephone, but will not be ready for distribution until about Sept. 1. Revisions have not been large and all regulations are essentially the same as those in "Circular No. 7," he said.

Tax Question Up

W. F. BURKE, Kentucky Independent Oil Co., Cincinnati, president of the association, was in the chair when the first meeting of the two-day session opened. About 100 persons were registered.

Mr. Burke spoke of the benefits the oil companies through the state are experiencing by using at stations and gasoline pumps price tags put out through the association to impress upon the public the amount of tax they are paying per gallon of gasoline. He said several members had reported motorists had stopped at their stations, had looked at the signs and had asked when they had started to pay the gasoline tax. The signs are simple metal affairs which show the price without the tax, the 2-cent tax and the total retail price. They are put out through the association more cheaply than they could be bought in small lots.

R. W. Palmer, Accurate Measure Oil Co., Columbus, chairman of the association's gas tax committee, reported the effort to fix in the public's mind the fact that part of what the public paid for gasoline was tax and not an excessive price for this commodity, was progressing. He told of the co-operation of associations in other states—Iowa, Kansas, Nebraska, and Missouri—to induce oil companies to post the amount of the tax on all gasoline pumps.

William J. Schafer, gasoline tax accountant of the state tax commission, said Ohio oil companies would be asked in the future to report their sales of gasoline in tank car lots as well as their receipts and retail sales. He said this would give the commission a check on tank cars sold through brokers which are often transferred in delivery and reported to the commission as tax unpaid when sometimes the tax has been paid by some intermediate seller.

Mr. Schafer said that examiners had started to check oil company returns last February and that to date about $250,000 had been collected on unreported taxable sales, which amount had accrued from the time the gas tax went into effect in April, 1925, until February. In Cleveland, he said, had been found 1,312,042 gallons which had not been reported when the oil company return was made, and the tax assessed: in Canton 1,050,453 gallons. This amount of around $250,000 was about 2 per cent of the total tax collected in this period, Mr. Schafer said.

He also said assessment of the 15 per cent penalty was the duty of the state tax commission, not the gasoline tax department, and that action against oil companies that failed to report all taxable gasoline, was the duty of the attorney general to whom failures to report were given. In reply to a question, Mr. Schafer said the system to be followed in which the oil companies were to report receipts and tank car sales as well as other sales, would make it easier to check cases in which an oil company claimed cars had been rejected.

ON benzol, since this has been declared taxable by an Ohio appellate court, Mr. Schafer suggested oil companies should report benzol sales and gasoline sales separately if they still had hopes that this motor fuel would be exempted from taxation; but that if they did not pay the tax on benzol they might be liable to the 15 per cent penalty.

He said tax returns showed oil companies were taking an allowance of about 1 per cent for evaporation, leakage and similar losses. He said, however, higher allowances might be granted for any particular period, if good cause were shown, but that high losses running month after month would be checked by the commission's examiners.

The suggestion that the tax commission publish the names of oil companies which wilfully failed to make returns under the gas tax law and later were brought to time by the tax authorities, came from several oil men. These men asserted the commission should give the facts concering the tax law violators to newspaper correspondents at Columbus, and that the effect would be to bring into line companies which were still trying to evade the tax. President Burke appointed R. C. Heil, Commercial Oil Co., Cleveland; J. L. Marsh, Vahey Oil Co., Youngstown, and R. R. Hart, Knox Oil Co., Mount Vernon, to draft a resolution to this effect to present to the commission.

Peter Witt, city councilman of Cleveland, explained his plan to limit the Ohio state gasoline tax to 2 cents a gallon by an amendment to the Ohio constitution; to fix the car license fee at $1, and to exempt the automobile from a personal property tax. Mr. Witt sought the cooperation of the Independent jobbers in obtaining signatures to his petition for a referendum from customers at service stations. President Burke approved the suggestion for greater co-operation by jobbers with the Witt plan. The Standard Oil Co. of Ohio is taking no part in soliciting the necesssary signatures of voters to initiate a referendum, Mr. Witt said.

Dr. Egloff Talks

A PLEA not to be too exact on color, gum, odor and sulfur specifications for gasoline, was made by Dr. Gustav Egloff, who is in charge of the research laboratory of the Universal Oil Products Co., Chicago.

After taking his audience through various stages in the development of the art of cracking and describing some of the processes in use today, Dr. Egloff told of the present effort to eliminate the paraffin hydrocarbons in gasoline to give a fuel of more anti-knock value, and stated that too exact requirements on color, particularly, were likely to hold back the perfection of anti-knock gasolines.

Dr. Egloff said he believed the motorist was not particularly interested in the color of the gasoline he bought. He spoke of the necessity for the general production and distribution of gasoline of uniform anti-knock qualities so that motorists could obtain it anywhere.

The Chamber of Commerce of Youngstown will intervene in the Mid-Continent refiners' rate cases now pending, in an effort to obtain lower rates on gasoline shipped from the Mid-Continent into Ohio, J. L. Marsh, Vahey Oil Co., Youngstown, chairman of the association's rate committee, reported. He said the state association was trying to induce interest in rate matters among associations representing consumers rather than oil companies, believing their protests would have more weight with the Interstate Commerce Commission. The Ohio jobbers are seeking to have rates into Ohio put on something of a parity with rates to Indiana points.

Cites Naphtha Case

MR. MARSH said the Proctor & Gamble Co., Cincinnati, soap manufacturers, had petitioned the Interstate Commerce Commission for lower rates on naphtha from the Mid-Continent field. The company is a big user of naphtha. Mr. Marsh said it was understood the examiners had reported favorably to the commission on their petition. Mr. Marsh said he did not see how the rate on naphtha could be reduced without gasoline rates being similarly affected. He said a comparison of present rail rates on gasoline into Ohio with rates into Indiana, with pipe line rates from the Mid-Continent into Ohio and with combination water and rail rates was being prepared to show the handicap Ohio jobbers were under.

In the absence of Harvey Cashatt, chairman of the insurance committee of the association, Secretary Hughes outlined a proposition the association has up now to procure blanket rates for its member companies on all kinds of insurance on their trucks, company cars and personal cars. He said considerable savings in premiums would result if the majority of oil companies would support the plan even to taking out part of their insurance through the association, to be placed with a leading stock insurance company. Mr. Hughes said the insurance could probably be placed by each company through the same agents that now handle its insurance.

G. J. Steigerwald, vice president of Wall & Steigerwald, oil jobbers of Cleveland, announced on behalf of the Cleveland Petroleum Club that the club would assume the expense of the dinner and entertainment, and that portion of the state association's registration fee set aside for the dinner and dance has been turned into the association's treasury.

The motion pictures, "The World Struggle for Oil" and "The Story of Gasoline" were shown. These films were produced by the Bureau of Mines in co-operation with the Sinclair Consolidated Oil Corp. and the Standard Oil Co. of Indiana.

Refinery Trip is Given Barnsdall Salesmen

CHICAGO, June 21.—A trip through its Barnsdall, Okla., refinery and nearby properties was given on June 18 to sales representatives of subsidiaries of the Barnsdall Corp., to acquaint them more with refining methods and the processes of making gasoline and other petroleum products.

The representatives, who came from all parts of the country, first went to Tulsa where they were met by H. L. Hughes, sales manager of Barnsdall Refineries, Inc., with headquarters at Tulsa, J. C. Evans, assistant sales manager, and J. T. Owen, manager of the lubricating oil department.

Breakfast was served the men at the Mayo hotel, Tulsa. Following the inspection, they were served with luncheon at the Theodore N. Barnsdall club rooms. F. E. Holsten, vice president of the refining subsidiary of the company, after luncheon outlined the processes through which crude oil must pass before it is ready for distribution.

The principal speaker of the day was E. B. Reeser, president, who after dinner at the Mayo hotel gave a brief history of the company's operations and growth from the time of its founding by Theodore N. Barnsdall to its present position among the largest 40 oil companies in the United States.

George D. Locke, vice president of the Barnsdall Refineries, at Chicago, was present. Other officials and employes present at the Tulsa meetings included: W. Wiley Rice, assistant sales manager; Dan C. Miller and E. R. Burger, Chicago: J. T. White, St. Paul; George W. Zell, St. Louis; J. M. Giltner, Kansas City; J. R. Pringle, Des Moines; C. A. Riley, Omaha; J. T. Kerin, Wichita, Kan.: W. F. May, Memphis, Tenn.; and Dan H. Roberts, Okahoma City; E. M. Coffey, general superintendent; W. F. Dieterman, refinery superintendent at Barnsdall; V. R. Oakley, superintendent of the Wichita refinery, and G. T. Grander superintendent of the Okmulgee refinery.

Lively Program Planned for Michigan Jobbers

GRAND RAPIDS, June 22.—What is hoped to be the most educational as well as most entertaining program offered at a state meeting of Independent oil men, is being planned by the Michigan Independent Oil Men's Association for its summer meeting on July 15 and 16 at Grand Hotel, Mackinac Island, according to James A. Gilmore, secretary.

Several well-known men in the industry are being lined up for speakers. Those who have been asked to take part in the program include Warren C. Platt, editor and publisher of National Petroleum News; Howard Bennette, managing director of Western Petroleum Refiners Association, Tulsa; R. L. Welch, secretary of American Petroleum Institute, New York; and D. E. Montgomery, of the Wisconsin department of markets, whose subject will be "Unfair Competition."

A banquet and dancing is scheduled for the evening of July 15. Special entertainment has been planned for the ladies which will include a boat trip to Les Cheneaux Island and a speed boat ride around the island.

Announcement is made of the removal of the headquarters of the association to 1005 Grand Rapids Bank Bldg., Grand Rapids, effective June 30. Offices formerly were at 220 Ashton Bldg.

Pure's General Offices To Move To Chicago

Staff Special

CLEVELAND, O., June 21.—The Pure Oil Co., domiciled in Columbus, O., ever since its organization as the Ohio Cities Gas Co., will move its executive headquarters to Chicago, probably early in September. No official statement has been made by the company to this effect, but it is known that the move has been under consideration for more than a year and it is learned that the directors have authorized the transfer.

Producing and refining operations of the company in the Mid-Continent and the Southwest have increased so greatly in scope in recent years that they now constitute the major part of the operations and accessibility to these interests was one of the considerations which prompted the decision to move. Another consideration was the fact that the company's connections with banking houses, always of primary importance to a corporation of this size, exist to large extent in Chicago.

The company is an Ohio corporation and its legal home will remain in Columbus. Beman G. Dawes, chairman of the board of directors, will retain his offices in Columbus, but will also have an office in Chicago. The stock transfer office will remain in Columbus and the annual meeting will be held there.

Henry M. Dawes, president of Pure Oil, and the vice-presidents in charge of the several divisions, will move to Chicago and take with them their staffs.

Executives, accounting and other activities connected with marketing in the central district, which includes Ohio, Indiana, parts of Pennsylvania, West Virginia and Kentucky, will be continued in Columbus, as will the Central Ohio producing division executives and staff, together with the legal and financial offices necessary to carry on the two departments.

APPLETON, WIS.—L. L. Doerfler, president and manager of the Northwestern Petroleum Co., Inc., with headquarters here, has opened a new lubricating oil station known as Doerfler's Lube-Serv-Atory.

Gasoline Tax Paper Work Burdens Oil Jobbers

LA CROSSE, June 18.—Gasoline tax collection methods were discussed at length in La Crosse June 16 at the joint meeting of the Wisconsin Independent Oil Jobbers' Association and the Minnesota Petroleum Association. Apparently the tedious task of making out reports is one of the chief complaints of oil men against acting as tax collectors for their states. After the oil men act as unpaid tax collectors for a state, after they are forced to guarantee 100 per cent collection of the tax, and after they take care of all the office overhead incidental to the unprofitable job, it is hard for them to please the state officials with the way they turn in the money.

In Wisconsin the 2-cent gasoline tax is on sales. Jobbers have a lot of figuring to do to show the government the difference in what they sell and what they buy and what they sell for resale. They have several blanks to make out in prescribed manners and they have to turn in tank car initials and numbers, so the tax collection department can check up on them and see if they are cheating. So, on the whole, the Wisconsin jobbers are pretty much disgusted with their kind of a law. Some of them are considering some better form and hope to have it changed at the next legislature.

The Minnesota contingent at the meeting was small. Paul E. Hadlick, secretary of the Minnesota organization was there and six or eight Minnesota jobbers from the neighborhood were with him. Mr. Hadlick pointed out the advantages of a law which he himself framed in Minnesota when that state indicated that it was going to have a two-cent tax of some sort. Mr. Hadlick's bill was designed to make tax collection as simple and easy for the oil men as possible.

Now, in Minnesota, the oil jobbers pay 2 cents a gallon on all the gasoline they receive from the refiner, less 3 per cent of the amount of the tax which is an allowance by the state for evaporation taking place between the tank car and the ultimate consumer. Mr. Hadlick says a good operator should hold his outage to 3 per cent. A similar law is in effect in California except that the state's allowance is only two per cent.

North Dakota, Mr. Hadlick says, is having much the same trouble with its gasoline tax paper work that Wisconsin reports. (Mr. Hadlick is secretary protem of the North Dakota association also) C. L. Henderson, vice president of the Vickers Petroleum Co., at Wichita, Kan., was at the meeting to deliver an address on anti-knock motor fuel, but engaged in the taxation discussion long enough to say the situation in Kansas was similar to the one in Minnesota, with rather liberal exemptions to the farmers. Missouri, it is said, has a more difficult law to obey than any of her neighbors.

Suggest Method to Find Percent Of Dilution in Crankcase Oil

NEW YORK, June 18

A PROPOSED method to determine the percentage of dilution in used crankcase lubricating oils was to be reported on by a special sub-committee of Committee D-2 on Petroleum Products and Lubricants at the annual meeting of the American Society for Testing Materials at Atlantic City, June 21 to 25.

The essential feature of this so-called capillary funnel-bubble method is the estimation of the percentage of dilution in terms of the volume of distillate collected in the receiving cylinder when the stream of liquid flowing from the condenser tip, through a special capillary funnel, ceases to entrain air bubbles, according to the report of Roger Chew, Standard Oil Co. of New Jersey, New York, chairman of this sub-committee. This cessation is due to the marked difference in viscosity between the heavier fractions of the diluent and the lighter fractions of the lubricating oil itself.

The committee was to report that more experimental work must be done on this testing method before it could even be offered in tentative form.

Six samples of lubricating oil were sent by the chairman of this committee to each of the laboratories cooperating in the tests. These samples, which are believed to be representative of practically all the types of crankcase lubricating oil marketed to any large extent in this country, were as follows:

A. A distillate lubricating oil of about 300 viscosity at 100° F derived from Gulf Coast Crude Petroleum.

B. A distillate lubricating oil of about 300 viscosity at 100° F derived from Mid-Continent Crude Petroleum.

C. A distillate lubricating oil of about 60 viscosity at 210° F derived from Mid-Continent Crude Petroleum.

D. A distillate lubricating oil of about 60 viscosity at 210° F derived from Gulf Coast Crude Petroleum.

E. A blend of Mid-Continent distillate lubricating oil with filtered cylinder stock, having a viscosity of about 300 at 100° F.

F. A blend of Gulf Coast distillate lubricating oil and filtered cylinder stock, having a viscosity of about 60 at 210° F.

With the lubricating oil samples was sent a supply of special naphtha which had a low percentage of fractions distilling below 212° F and directions to make tests on mixtures of 5, 10, and 20 per cent of the naphtha with 95, 90 and 80 per cent respectively of each of the oils. The results obtained appear in the following table:

Result of Tests Using Capillary Funnel-Bubble Method for Determining Crankcase Dilution

	Oil A	Oil B	Oil C	Oil D	Oil E	Oil F
Tests on Mixtures of 95 Per Cent Oil and 5 Per Cent Diluent						
Laboratory 1	5.2	5.2	5.2	5.2	5.2	5.2
Laboratory 2	4.5	5.0	4.7	4.5	4.7	4.5
Laboratory 3	5.0	5.6	7.6	5.4	5.2	5.2
Laboratory 4	5.0	6.0	6.0	4.5	5.0	4.5
Laboratory 5	5.5	5.0	7.0	5.1	6.3	5.3
Laboratory 6	4.5	5.0	5.5	4.0	5.0	4.0
Laboratory 7	6.0	8.5	32.0	7.5	6.5	6.0
Average	5.1	5.8	9.7	5.2	5.4	4.9
Tests on Mixtures of 90 Per Cent Oil and 10 Per Cent Diluent						
Laboratory 1	10.2	10.2	10.2	10.2	10.2	10.2
Laboratory 2	9.5	9.5	9.7	9.0	9.0	9.2
Laboratory 3	9.3	10.9	10.8	10.2	10.2	10.8
Laboratory 4	10.5	11.5	11.0	9.5	10.0	10.0
Laboratory 5	11.0	11.5	14.6	11.0	10.9	11.6
Laboratory 6	10.0	10.0	11.0	10.0	11.0	10.5
Laboratory 7	10.0	12.5	20.0	11.0	11.0	11.0
Average	10.1	10.9	12.4	10.1	10.3	10.5
Tests on Mixtures of 80 Per Cent Oil and 20 Per Cent Diluent						
Laboratory 1	20.2	20.2	20.2	20.2	20.2	20.2
Laboratory 2	18.2	19.0	19.2	18.2	18.5	18.0
Laboratory 3	20.3	20.4	22.7	20.0	20.2	20.0
Laboratory 4	20.0	20.5	20.5	19.5	20.0	20.5
Laboratory 5	20.0	20.7	22.0	20.0	20.2	20.1
Laboratory 6	20.0	21.0	20.0	20.0	20.0	20.0
Laboratory 7	20.5	23.0	32.0	21.0	20.5	22.0
Average	19.9	20.7	22.3	19.8	19.9	20.1

These figures indicate that the method, as tried, is reasonably accurate but that the procedure has not as yet been defined closely enough to prevent the possibility of unsatisfactory results from inexperienced operators. The major source of inaccuracy seems to be due to "cracking" of the lubricating oil when the rate of heating is too slow. It seems probable that better directions to cover this matter of heating would obviate some of the difficulties encountered in the present experiments.

It has been stated in the past that oils of low flash point, which of course means oils containing fractions of relatively low boiling point, and oils containing cylinder stock are most likely to give inaccurate results in a dilution test. The present experiments indicate that high flash oils are most likely to be the worst offenders as indicated by the high (in some instances abnormal) results obtained with oil C, which is a high-flash-point product. Oil B, which is the next highest in flash, gives the next highest result in the dilution tests.

License Union Colorimeter

THE executive committee of the American Society for Testing Materials announced at the meeting that the society has executed a formal agreement with the Sinclair Refining Co., owners of the patent for the Union Colorimeter, by which that company agrees to grant licenses for the nominal sum of $1 to manufacturers of scientific instruments, approved by the executive committee, to manufacture and sell the Union Colorimeter.

This instrument was accepted as tentative in 1923 upon the recommendation of Committee D-2 for use in determining the color of lubricating oils, and the specifications for the instrument are embodied in the present Tentative Method of Test for Color of Lubricating Oils by Means of Union Colorimeter (D 155-23 T).

Committee D-2 was in close touch with the steps taken to develop this instrument and its adoption by the committee was based upon an understanding with the Union Petroleum Co., then owners of the patent, that a suitable agreement would be entered into with the society respecting license to manufacture. Subsequently the Sinclair Refining Co. obtained control of the patents and has now executed an agreement upon substantially the lines originally contemplated. The agreement provides that licensees shall manufacture the instrument in strict accordance with the society's specifications and all subsequent revisions thereof.

Under the terms of this agreement the Sinclair Refining Co. has granted to the C. J. Tagliabue Manufacturing Co. the non-exclusive right to manufacture and sell the Union Colorimeter, the executive committee having formally approved of such licensing.

Church Didn't Accept Q. D. A. Discount

That his church members were securing discounts on gasoline purchases under a Q. D. A. agreement, as reported in an article in the March 31st issue of National Petroleum News, has been denied in a letter from Torrance Phelps, pastor of the church, in Kalamazoo, Mich. Rev. Phelps says;

"This proposition was never carried out and, one week after the offer was made, the offer was cancelled.

"In view of the widespread discussion the affair provoked and the invidious publicity our church acquired, I would be glad to have you publish this letter.

"We did not and shall not receive any commissions or percentages on gas or oil purchases."

Compilation Of Mid-Continent Refinery Operations

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National Petroleum News

Mid-Continent Refinery Operations Week Ended June 18 (By Telegraph)

	Kansas	%Change Previous Week	Oklahoma	%Change Previous Week	No. & Cent. Texas	%Change Previous Week	No. La.-Ark.	%Change Previous Week	Totals Week Ended June 18	%Change Previous Week	Totals Week Ended May 21
Plants Reporting	23		46		41		14		124		124
Daily Cap. (Bbls.)	98,200		165,900		144,300		51,700		460,100		460,100
Da. Av. Crude Runs	67,071	+ 6.7	114,312	— 2.7	69,833	— 1.2	40,900	+ 4.1	292,716	+ 0.6	283,565
Da. Av. Other Oils	7,129	+27.0	1,965	.....	3,644	—20.3	112	—91.1	12,850	+30.0	12,941
GASOLINE—Gallons											
Stocks June 11	11,497,689		40,591,644		17,824,791		5,880,863		75,794,987		75,479,345
Prod. 6-11 to 6-18	10,241,445	+11.8	15,126,019	— 7.6	7,683,427	+ 2.4	2,908,518	— 1.0	35,959,409	—0.03	33,531,666
Ship. 6-11 to 6-18	10,513,088	+19.5	16,726,876	+ 5.2	7,482,774	+ 3.2	3,067,898	+10.5	37,790,636	+ 8.8	34,626,945
Stocks June 18	11,226,046	— 2.4	38,990,787	— 3.9	18,025,444	+ 1.1	5,721,483	— 2.7	73,963,760	— 2.4	74,384,066
Ratio Sales to Prod	102.7%		110.6%		97.4%		105.5%		105.1%		103.3%
KEROSENE—Gallons											
Stocks June 11	3,418,273		6,653,059		2,227,842		665,466		12,964,640		5,967,057
Prod. 6-11 to 6-18	1,342,887	—22.3	2,292,495	—16.6	1,180,615	—19.0	650,220	+30.5	5,466,217	—15.1	7,340,273
Ship. 6-11 to 6-18	1,301,472	+21.5	1,597,539	+ 9.8	922,380	—20.5	310,796	—34.1	4,132,187	— 0.6	5,967,843
Stocks June 18	3,459,688	+ 1.2	7,348,015	10.4	2,486,077	+11.6	1,004,890	+51.0	14,298,670	+10.3	7,339,487
Ratio Sales to Prod	96.9%		69.7%		78.1%		47.8%		75.6%		81.3%
STOVE DISTILLATE—Gallons											
Stocks June 11	2,028,179		2,142,046		271,644		12,012		4,453,881		3,183,970
Prod. 6-11 to 6-18	644,587	+ 0.1	248,542	—30.3	170,669	—22.4	24,486	+145.0	1,088,284	—11.5	994,905
Ship. 6-11 to 6-18	326,954	—23.7	177,540	—43.7	98,470	—53.2	23,206	—61.7	626,170	—38.3	655,648
Stocks June 18	2,345,812	+15.7	2,213,048	+ 3.3	343,843	+26.6	13,292	+10.7	4,915,995	+10.4	3,523,227
Ratio Sales to Prod	50.7%		71.4%		57.7%		94.8%		57.5%		65.9%
GAS OIL—Gallons											
Stocks June 11	8,987,919		35,360,793		3,654,752		3,235,659		51,239,123		55,043,465
Prod. 6-11 to 6-18	1,611,442	+ 9.9	1,655,227	+18.1	745,397	— 0.9	1,165,631	—20.9	5,177,697	+ 1.7	5,628,474
Ship. 6-11 to 6-18	1,327,260	—16.9	1,101,662	—40.2	304,972	+153.1	1,356,149	—56.3	4,090,043	—38.6	6,454,676
Stocks June 18	9,272,101	+ 3.2	35,924,358	+ 1.6	4,095,177	+12.1	3,045,141	— 5.9	52,326,777	+ 2.1	54,217,263
Ratio Sales to Prod	82.4%		66.6%		40.9%		116.3%		79.0%		114.7%
FUEL OIL—Gallons											
Stocks June 11	11,140,008		45,943,162		19,571,698		9,469,017		86,123,885		68,883,453
Prod. 6-11 to 6-18	5,561,746	+10.1	10,364,320	+ 2.5	9,116,957	— 0.3	6,503,120	+ 1.6	31,546,143	+ 2.7	32,079,645
Ship. 6-11 to 6-18	6,048,743	+20.5	7,216,318	— 4.0	8,941,816	+ 2.7	7,353,100	+26.9	29,559,977	+ 9.3	27,625,625
Stocks June 18	10,653,011	— 4.4	49,091,164	+ 6.9	19,746,839	+ 0.9	8,619,037	— 9.0	88,110,051	+ 2.3	73,337,473
Ratio Sales to Prod	108.8%		69.6%		98.1%		113.1%		93.7%		86.1%

2,000,000-Gallon Draft on Gasoline Stocks

By Telegraph

TULSA, June 21.

SHIPMENTS of gasoline from 124 Mid-Continent refineries increased 3,000,000 gallons in the week ended June 18, according to reports to National Petroleum News. Total shipments for the week were 37,790,636 gallons, an increase of 8.8 per cent.

Gasoline production from this large group of plants representing approximately 60 per cent of the current output of the Mid-Continent field, was virtually stationary, decreasing about 10,000 gallons to 35,959,409 gallons.

Gasoline stocks were reduced nearly 2,000,000 gallons, or 2.4 per cent to 73,963,760 gallons, or the low point reached on May 28, when stocks amounted to 73,608,826 gallons. At the rate of shipment during the week stocks represented 14 days' supply.

Stocks of all other principal commodities offered in the field were increased. Production of kerosene was reduced 15 per cent, compared with output in the previous week, to 5,466,217 gallons and shipments remained nearly unchanged at 4,132,187 gallons. Stocks increased more than 1,000,000 gallons to 14,298,670 gallons which is 4,000,000 more than on Jan. 1 at the same group of plants.

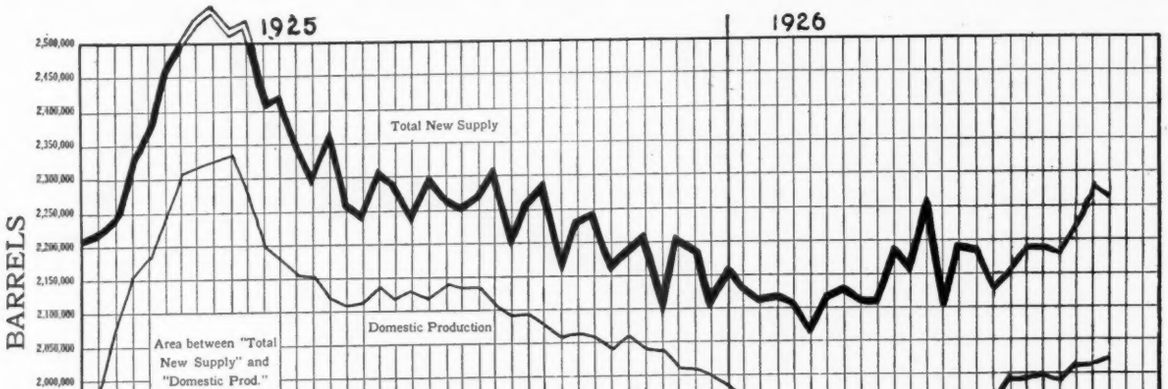
Fuel oil stocks increased approximately 2,000,000 gallons to 88,110,051 gallons; gas oil stocks about 1,000,000 gallons to 52,326,777 gallons, and distillate stocks 500,000 gallons to 4,915,995 gallons.

Summary for the Month

Production and shipments, all reporting refineries, for four weeks ended June 18. Change in stocks figured from May 21.

	Gallons
Gasoline	
Production	142,922,896
Shipments	143,343,202
Net change in stocks	—420,306
Ratio sales to production	100.3%
Kerosene	
Production	25,613,864
Shipments	18,654,681
Net change in stocks	+6,959,183
Ratio sales to production	72.8%
Stove Distillate	
Production	4,392,923
Shipments	3,000,155
Net change in stocks	+1,392,768
Ratio sales to production	68.3%
Gas Oil	
Production	20,914,317
Shipments	22,804,803
Net change in stocks	—1,890,486
Ratio sales to production	109.0%
Fuel Oil	
Production	124,949,594
Shipments	110,177,016
Net change in stocks	+14,772,578
Ratio sales to production	88.2%

Daily Average Crude Oil Production and Imports



Daily average gross crude output of United States, by fields, for week ending with dates given below, as compiled by American Petroleum Institute

OKLAHOMA

	June 19	June 12
North Braman	2,700	*3,000
South Braman	10,600	10,950
Blackwell	4,300	4,300
Hubbard	1,900	1,900
Thomas	2,600	2,550
Tonkawa	36,450	34,800
Garber	37,250	39,600
Burbank	45,550	45,650
Osage, outside Burbank	34,300	34,300
Watchorn	2,950	3,000
Cushing	21,800	21,850
Yale Jennings	15,850	16,100
Davenport	10,300	10,300
Bristow-Slick	29,650	29,700
North Okmulgee	17,650	17,650
Lyons-Deaner	4,250	4,250
Stroud	2,200	2,050
Cromwell	17,500	17,200
Papoose	10,850	10,850
Wewoka	29,600	28,200
Duncan district	7,300	7,350
Graham	9,650	9,650
Fox	4,700	4,650
Healdton	14,950	14,950
Hewitt	11,900	11,900
Others	72,150	71,700
Total Oklahoma	458,900	458,400
Increase		500

* * *

KANSAS

Florence-Covert	1,750	1,800
Peabody-Elbing	4,300	4,300
Eldorado-Towanda	13,800	13,800
Augusta-Fox-Bush	5,050	5,050
Rainbow Bend	4,250	4,350
Russell	5,650	5,250
Greenwood County	44,750	44,550
Others	28,200	28,100
Total Kansas	107,750	107,200
Increase		550

NORTH LOUISIANA

Homer	5,700	5,700
Haynesville	10,000	10,000
Caddo, light	9,850	10,100
Caddo, heavy	2,750	2,850
De Soto, Red River	3,800	3,950
Elm Grove	600	600
Bellevue	2,400	2,400
Cotton Valley	8,500	8,700
Urania	15,650	16,400
Total North Louisiana	59,250	60,700
Decrease		1,450

ARKANSAS

El Dorado	7,300	7,250
Smackover, light	17,000	16,800
Smackover, heavy	126,000	131,500
Stephens	1,900	1,800
Nevada	2,650	2,700
Lisbon	10,350	10,500
Total Arkansas	165,200	170,550
Decrease		5,350

* * *

NORTH TEXAS

	June 19	June 12
Burkburnett	11,900	11,900
Electra	16,400	16,450
Iowa Park and K-M-A	4,400	4,400
Wilbarger	14,200	13,900
Panhandle	49,000	39,750
Petrolia	550	550
Others	4,350	4,100
Archer County	32,700	32,900
Total North Texas	133,500	123,950
Increase		9,550

EAST CENTRAL TEXAS

Mexia	12,250	12,400
Currie	800	850
Richland	1,600	1,600
Corsicana-Powell	29,450	29,650
Wortham	7,650	7,650
Total East Central Texas	51,750	52,150
Decrease		400

WEST CENTRAL TEXAS

Stephens County	11,900	11,950
Eastland County	5,750	5,750
Desdemona	1,750	1,750
Young County	6,850	6,900
Palo Pinto County	450	450
Callahan County	3,700	3,850
Shackelford County	9,300	10,850
Reagan County	30,300	32,700
Others	12,200	13,250
Total West Central Texas	82,200	87,450
Decrease		5,250

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SOUTHWEST TEXAS

Luling	21,600	21,900
Mirando	9,200	8,800
Somerset	2,050	2,050
Lytton Springs	4,650	4,900
Piedras Pintas	250	200
Others	550	600
Total Southwest Texas	38,300	38,450
Decrease		150

GULF COAST

Goose Creek	8,600	8,600
Hull	17,550	18,650
Saratoga	1,400	1,200
Blue Ridge	800	850
Damon Mound	900	900
Batson	1,350	1,200
West Columbia	8,650	8,450
Humble	4,050	4,100
Pierce Junction	2,250	2,700
Sour Lake	5,050	5,200
Spindletop	4,300	4,250
Orange County	8,300	10,900
Edgerly	1,050	1,000
Evangeline	900	900
Vinton	6,450	6,500
Lockport	3,950	4,450
South Liberty	5,200	4,750
Big Creek	950	900
Boling	2,300	3,200
Others	2,150	2,300
Total Gulf Coast	86,150	91,000
Decrease		4,850

* * *

ROCKY MOUNTAIN

WYOMING

	June 19	June 12
Salt Creek	50,000	53,150
Grass Creek	3,150	2,750
Elk Basin	850	800
Big Muddy	3,500	3,450
Lost Soldier	4,750	4,150
Rock River	3,000	2,900
Teapot Dome	1,300	1,250
Others	5,400	5,450
Total Wyoming	71,950	73,900
Decrease		1,950

MONTANA

Cat Creek	2,850	2,850
Sunburst	25,000	25,000
Total Montana	150	150
	28,000	28,000

COLORADO

Moffat (Craig)	4,050	3,950
Fort Collins	3,450	*3,050
Florence	450	450
Others	300	300
Total Colorado	8,250	7,750
Increase		500

New Mexico

Artesia	3,000	3,000
Hogback	450	450
Rattlesnake	950	1,000
Total New Mexico	4,400	4,450
Decrease		50
Total Rocky Mountain	112,600	114,100
Decrease		1,500

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CALIFORNIA

Santa Fe Springs	48,500	48,500
Long Beach	107,000	108,500
Huntington Beach	43,500	43,500
Torrance	29,500	29,500
Dominguez	21,000	21,000
Rosecrans	17,000	17,000
Inglewood	49,000	49,000
Midway-Sunset	94,500	94,500
Ventura Avenue	42,000	34,700
Others	157,500	157,500
Total California	609,500	603,700
Increase		5,800

EASTERN

(Including Ill., Ind., Ky., Ohio, W. Va., Pa., and N. Y.)	106,500	106,500

Production Summary

Production east of Rockies	1,402,100	1,410,450
Decrease		8,350
Total Production in U. S.	2,011,600	2,014,150
Decrease		2,550

*Revised

Atlantic Coast Stocks of Gasoline Heavy

NEW YORK, June 21.—A feeling of uncertainty permeates the gasoline market all along Atlantic Seaboard, and refiners show a lack of confidence in the immediate future in sharp contrast to the bullish sentiment that prevailed a month ago.

There appears to be little doubt but that there is a large oversupply of gasoline all along the Atlantic Seaboard, and that conditions are somewhat similar to a year ago.

This reaction in the gasoline market is due to several causes. Unusually unfavorable weather has prevailed the past month or six weeks. When bulk gasoline was firm brokers all along the Coast here, anticipating a normal season, bought heavily at around 13½ to 14 cents a gallon. Due to the inclement weather they failed to move their stocks, which are now backing up on the market.

One local oil man said there are fully 200 tank cars of gasoline held by Pennsylvania and New York state brokers who are willing, in fact anxious, to dispose of it at the prices paid, 12½ to 13¾ cents.

Recently there has been a persistent report that one broker was offering 2,000,000 gallons of gasoline at 13 cents a gallon, terminal, prompt delivery. This concern has been bringing in Trinidad gasoline, and blending it with domestic gasoline to bring down the initial point. However, when one buyer tried to close the 2,000,000 gallons at 13 cents, it was unavailable.

Up to the present California gasoline has not had any material influence on the seaboard market. It has been more of a threat than a reality. Now there is talk of impending large arrivals at low prices, coming at a time when the market is already depressed. At present U. S. Motor gasoline can be bought at 10¼ cents a gallon at the Pacific Coast, it is said. This, plus insurance and freight, makes the price approximately 13¼ cents a gallon laid down along the Atlantic Seaboard.

A few weeks ago the market was rife with rumors of impending advances in gasoline and tank wagon prices. Today the situation is quite the reverse, with marketers anticipating a reduction during the next few weeks.

Voted Life Membership

LA CROSSE, WIS., June 16.—Erle Thompson, until recently owner of the Thompson Oil & Supply Co., Oshkosh, Wis., was voted a life membership in the Wisconsin Independent Oil Jobbers' Association here today. The token of the membership was a handsome certificate. The honored member was once president and always an active worker in the interest of the industry in his state. Recently he sold the business he built at Oshkosh to a partnership known as the Cook & Brown Oil Co., and moved his residence to St. Louis.

Los Angeles Water Shipments Week Ended June 19

(Barrels of 42 U. S. Gallons)

	Crude	Gasoline	Tops	Kerosene	Gas Oil	Fuel Oil	All Products
Atlantic Domestic...	78,000	75,000	.....	.....	75,000	70,000	298,000
Pacific Domestic.....	152,000	.....	78,846	.....	.....	188,232	419,078
Pacific Foreign.....	71,200	.....	.....	143,285	.....	291,362	505,847
Total shipments week ended June 19 (16 tankers)							1,222,927
Total shipments week ended June 12 (31 tankers)							2,071,837
Total shipments week ended June 5 (31 tankers)							2,127,978

Ships Clearing for Atlantic Seaboard

Tanker	Destination	Consignee	Cargo (Bbls.)
David McKelvy	New York	Tidewater Oil Co.	78,000 crude
Algonquin	New York	Standard Transportation Co.	75,000 gas oil
Paulsboro	New York	Vacuum Oil Co.	70,000 fuel
W. L. Steed	Providence	Pan-American Pet. & Transport Co.	75,000 gasoline

H. G. James, A. O. M. A. Secretary, Dies

H. G. James

CHICAGO, June 21.—Horace G. James, secretary and manager of American Oil Men's Association, died in the Congress Hotel, Chicago, June 19. Mr. James was an authority in oil statistics, had spent his life since boyhood in the petroleum industry, and was a conspicuous figure in the Independent branch when he died. Only a bell boy was with him when he died.

No ceremonies were held in Chicago. The funeral will be from his mother's home in Bradford, Pa., at 3 p.m., June 23. Mr. James had been ill for several months and collapsed about six weeks ago. His association directors and his physician persuaded him to spend a month at home in Kansas City. Feeling much improved he returned to Chicago June 13.

Saturday night Mr. James set out for Crystal Lake, hoping to procure a cottage for himself and Mrs. James to use this summer. Arriving at the railroad station, he decided he was unable to stand the trip and returned to the hotel.

George S. Allee, secretary, Missouri Oil Men's Association, accompanied Mrs. James from Kansas City, Sunday night. Wayland V. James, attorney of Springfield, Mass., brother of H. G. arrived in Chicago Monday morning and Arthur G. Dana, Prairie Oil & Gas Co., with his wife who is Mrs. James' sister, reached Chicago Monday afternoon from Cheyenne, Wyo. H. G. James has two living sisters, Mrs. Samuel Axtell, Bradford, Pa., and Mrs. Charles E. Putnam, Detroit.

Mr. James was born in Tidioute, Pa., Dec. 31, 1869, the son of Obed S. James and Elizabeth C. James. His birthplace was near that of the petroleum industry and his father was an oil man. Obed S. James was a whaler of Nantucket island who entered the petroleum industry after it almost ruined the whale oil trade. He died in 1915 but the mother still lives in Bradford.

H. G. James got a common school education in Titusville and learned the printer's trade on the Evening News in Franklin. In 1888 he was a reporter on the Penny News of Bradford, writing oil news. Later he handled the oil department of the Bradford Era and after that became editor and publisher of the Bradford Evening Star. For a while he was manager of the Los Angeles Herald and following that bought the Independence Reporter of Independence, Kan., and made an oil publication of it.

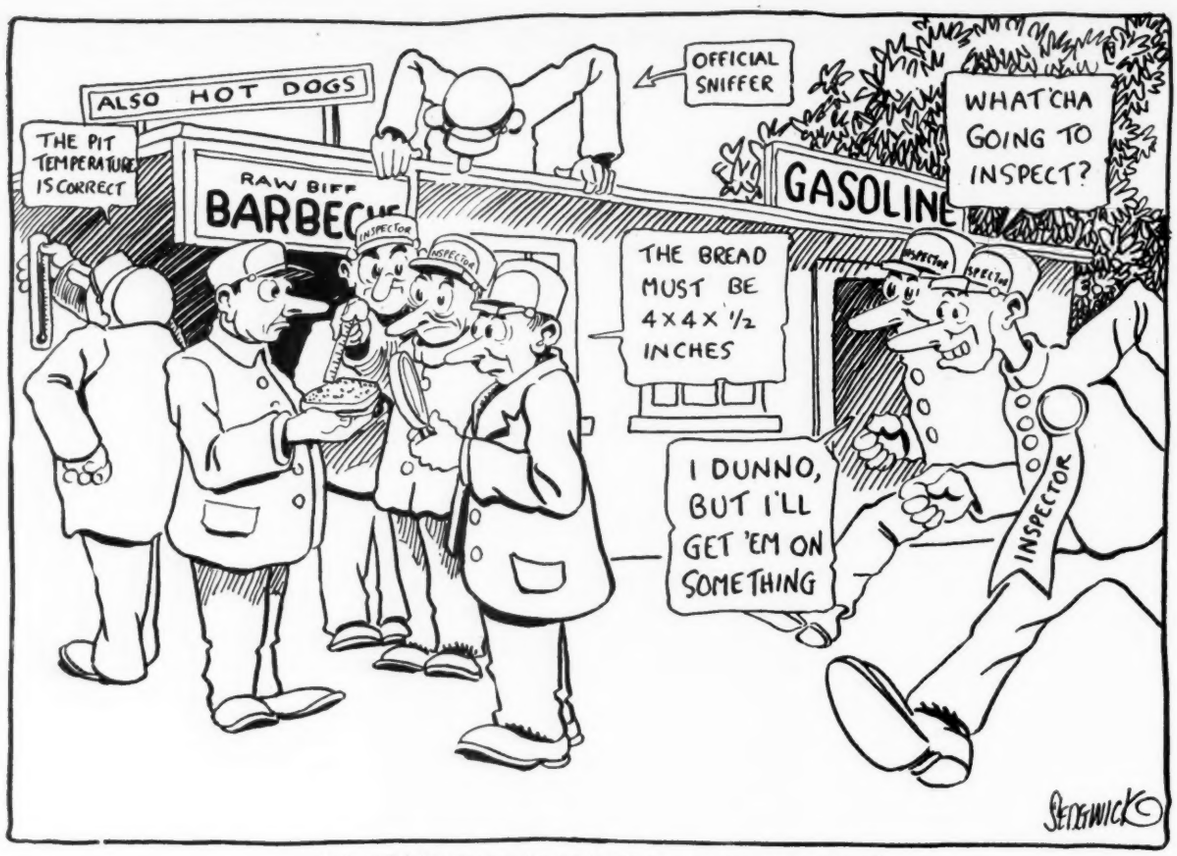
Thousands of oil men met him first in 1912 when he succeeded W. H. Isom and became the second president of the Western Petroleum Association. In 1915 he resigned as executive secretary of the refiners group and started publishing a refiners' magazine in Kansas City which he sold to become an official of the Derby Refining Co. Mr. James became secretary of the A. O. M. A. nearly three years ago.

Forest Corp. Buys Large Acreage at Bradford

CLEVELAND, O., June 21.—The largest purchase of oil properties in months in any Eastern field was concluded at the end of last week when the Forest Oil Corp. gained title to the Bradford field oil properties of the Jones Estate, comprising 2500 acres with 469 wells. Possession was taken on Monday morning. The consideration was not made public.

The properties adjoin, in many instances, the previous holdings of the Forest company. These latter are fairly widely distributed throughout the heart of the Bradford field, with a sizable amount of acreage in New York state.

The Forest Company is widely known in the oil industry for its intensive application of the water drive method of producing oil.



NOW THAT THEY ARE CLOSELY ALLIED, WHY NOT?

Texas Gasoline Reduced 1 Cent in Chicago

CHICAGO, June 19.—Effective June 19, The Texas Co. restored the competitive gasoline price in Chicago, where it had charged a premium of 1 cent a gallon since June 1.

The new Texaco gasoline, 60-62-390 and better, sells at the competitive price of U. S. Motor gasoline throughout the company's western marketing divisions generally. On last June 1, however, the effort was made to sell at a 1-cent premium here because the margin of profit in Chicago is narrower than most outside points.

The Texas Co. does not operate many filling stations in Chicago. Its extensive gallonage is through garage pumps and privately run filling stations. Many of these latter are owned completely by The Texas Co., but leased to the customer who naturally controls his own selling price. During the last few days several of these filling station operators have continued to buy Texaco gasoline at the increased tank wagon price but kept on selling it at the price of Red Crown, which cut their spread to 2 cents a gallon.

Other companies' service station customers who operate their own places in Chicago have a spread of 4 to 6 cents a gallon. They have the normal 2-cent dealers differential, plus 1 cent for taking dumps of 100 gallons or more, plus 2 cents Q. D. A. if they have enough turnover, and some of them truck their own gasoline at 1 cent a gallon.

By reverting to the normal retail price of competitive material, The Texas Co. allows its reselling agents 3 cents a gallon. Authorities of the company say their policy toward Q. D. A. will not change. The Texas Co. has declared all quantity discount agreements void upon expiration and is rapidly abandoning the practice.

Atlantic Introduces New Anti-Knock Fuel

CLEVELAND, June 21.—Atlantic Refining Co. is advertising throughout its marketing territory a new gasoline the result, its advertisements say of "a new combination of petroleum products. And ten million dollars' worth of special refining equipment * * * * installed to make it."

It is understood the gasoline is a straight cracked product from California crude, with high anti-knock quality.

In an advertisement introducing the new motor fuel, the company says farther:

"Whether to put new pep into a sport roadster, or to roll a five-ton truck up a heavy grade, today's Atlantic will do the job in a way that challenges any comparison. All the technical description in the world won't prove half so convincing as the results you yourself will see and feel.

"Fresh punch! Velvety smoothness which tells you that there is the gasoline you've been looking for. A gasoline which meets every requirement of your motor. Which produces all the power your motor was designed to develop. And which gives you more dollar-for-dollar value than any other motor fuel you have ever used. Try it."

Atlantic City Popular With N. P. M. A.

CHICAGO, June 19.—Indications are strong the big fall convention of the National Petroleum Marketers' Assoc. will be held in Atlantic City. No date has been determined and will not be until the membership of the association has decided upon a place. That popular decision is being made quite rapidly.

On June 16, L. V. Nicholas, president sent out ready-addressed and stamped return mailing cards to all his members. On the cards the seven towns were listed which are being considered for the convention. Members were asked to mark the town they preferred and return cards at once.

June 18, returns began to pour in from members in and near Chicago. Middle western jobbers are voting strong for a convention in the East. There seemed to be something prophetic about it when C. O. Beroth, president of Acme Petroleum Co., walked down the hall on the eleventh floor of the Blum building, and returned the first ballot in person to the N. P. M. A. office, his nearest neighbor. He designated a preference for Atlantic City.

A majority of the voters had not returned their ballots yet, but the seven towns showed popularity among the oil men in the following order—Atlantic City, Chicago, West Baden (French Lick) Ind.;St Louis, Detroit, Kansas City, and Cincinnati.

The Editor's Viewpoint

National Petroleum News

State Inspection Has No Leg to Stand On

By Warren C. Platt
Editor

AS much as the oil men of Minnesota may honor and respect Hjalmar Nilsson, Chief Oil Inspector,—as much as these oil men may write him nice bouquets, the facts require that one flatly and emphatically differ from him and contradict many of the statements he made in his address to the Federal Oil Conservation Board at Washington, May 27th.

Why Mr. Nilsson or any other oil inspector should have been asked to address the Oil Conservation Board is more than anyone seems to know. His remarks had nothing to do with the subject before the Board. It appeared to the observer to be only a waste of time of the Board and the oil men.

It was quite ridiculous, the appearance of an oil inspector before the Oil Conservation Board arguing for his own existence. It would be like a firebug attending a meeting of fire-chiefs to argue how his business of committing arson aided in fire prevention. There is no connection and can be no connection between oil inspection and conservation. They are diametrically opposite. Oil inspection is a waste and an unfair and unjust imposition upon the oil industry and the public.

Oil inspection can only be justified on the assumption that the manufacturers and the distributors of the petroleum products inspected are crooks. There is just as much sense to the existence of oil inspectors as there would be to have a department of hammer inspectors to see that the users of hammers did not pound their fingers. At one time there was some justification possibly for oil inspection, but that was many years ago. Since that time oil inspection has been solely a means of keeping men on the public pay-roll for political purposes.

Why Single Out Oil?

IF oil and gasoline should be inspected, then everything that is sold to the public should be similarly inspected. The public has no more "protection" against a yard of cloth, or a hammer, or a pound of nails, a bottle of water, or anything else, than it has against a gallon of oil, or a gallon of gasoline, and, as in the case of Mr. Nilsson's state also, a gallon of domestic furnace oil.

Mr. Nilsson's defense of oil inspection is based, as he says, on "the necessity of control and protection in regard to the distribution of petroleum products."

He goes on to say—

"Few people outside of the oil industry have a knowledge of gasoline and kerosene to such an extent that they can determine its quality," and he elaborates and points out the terrifying ignorance of a nearby state oil inspector who recently said that the gravity test was all that was needed for gasoline and that there was nothing to the distillation test. Nilsson said that he had to take hold of the gentleman and show him where he was wrong, whereupon the legislature passed "a good oil inspection law and adopted specifications" similar to Minnesota.

Why does the public need to know anything about the technical details of gasoline and kerosene? If the public should know those technical details, so that it can judge them, then the public should have the same information regarding everything else in the world that is sold it. If the public's mind is not so equipped, according to Mr. Nilsson, the state should step in and set up specifications and inspect. Why should he stop with oil and gasoline? If he wants government in business, as he evidently does, because that is all he stands for, then he should go the limit and put government in every business, and cram in the heads of the public technical data on everything the public buys.

What Are Its Advantages?

MR. NILSSON says "some people are prejudiced against all kinds of oil inspection but they know little or nothing of the advantages that accrue to oil dealers and consumers through honest to goodness oil inspection."

True, we are prejudiced, and true, we know little or nothing of the advantages that may accrue, because there aren't any advantages. However, Mr. Nilsson undertakes to list some.

"FIRST—The oil dealers," says Mr. Nilsson, "are assured of the uniform quality of gasoline from the refiners as the refiners know that, if the contents of a car is *not* up to legal specifications, the same will be rejected by the Minnesota Division of Oil Inspection and this will entail extra expense to the refiner by having to divert the car to some point outside the state."

This alleged advantage brings us down pretty much to the nub of the thing. Wherever competition reigns, as it certainly does reign in the oil industry, that brings about not only uniformity in prices, but uniformity in quality, for the very simple reason that, just as one refiner can't sell gasoline for 12 cents while his neighbor is willing to sell the same amount of gasoline for 11 cents, so one refiner can't sell a poor grade of gasoline at 11 cents, when his neighbor is willing to sell a good grade at 11 cents.

Competition Fixes Standard

HONEST, free competition, therefore, not only brings about a level of prices, but a level of products on those prices. Of course there are people who will always steal watches and there are probably some who put kerosene into the gasoline, but they cannot exist and they do not exist over any length of time, simply because they cannot sell their product at a remunerative price and generally not at any price at all.

Any intelligent investigation of business anywhere will develop this plain fundamental truth. That investigation will show, as it has shown in the opinion of most of the people, that the few who would err, purposely or unintentionally, from the standards set by competition, are not moving enough goods and are not doing enough harm to make it worth the cost of policing all business everywhere.

So, to get back to Mr. Nilsson's statement, uniform quality of gasoline is due to the competition of the refiners who deliver a product to the marketer, which he in turn can sell to the public, and it is not due to the existence of the Minnesota Oil Inspection Department, or any other oil inspection department.

All the states that have adopted specifications, with the exception of a few that have had to pay a premium, have adopted the specifications which the industry itself had already set up. The same is substantially true of the government specifications.

So far as the Minnesota Department testing tank cars of gasoline—that is done by the buyer himself anyway.

So, in all frankness, one must say that Mr. Nilsson's first point in defense of his department is based upon the assumption that the refiner is pretty much of a crook, and the marketer who buys from him a dumb-bell.

"SECOND—The inspection eliminates a possibility of friction between the dealer and refiner on the question of quality of gasoline shipped, if they have a state department of inspection to fall back on."

Invades Private Enterprise

HERE one might say that the state department, in testing cars in this capacity, is usurping the functions and invading the realm of private enterprise of the consulting and testing chemical laboratories, which are established all over the United States, and recognized as many thousands of times more efficient and more accurate in making tests—even in gasoline—than any oil inspection department ever thought of being. Anyway, why soak the public many thousands of dollars to settle an argument between a refiner and his customer?

"THIRD—It eliminates the possibility of some oil company buying inferior gasoline, or mixing it with kerosene and selling it for a lower price, thereby destroying the price structure and creating unhealthy competition."

This we must insist is far from the fact. No inspection department can prevent a dealer mixing kerosene and gasoline, unless that inspection department wants to have an inspector on duty all the time at every motor fuel pump in the country. If the dealer is going to be crooked, he is going to be crooked and no inspection department will be able to stop him.

As to preventing an oil company from buying inferior goods—the law of competition will take care of that. An oil company cannot buy and sell inferior goods very many times without being out of business.

"FOURTH—The customers have a good word for the company or dealer whom they purchase their supply from, because the gasoline always acts the same in their cars and they are satisfied in their own minds that they are getting quality goods."

This is answered in all the foregoing. That Mr. Nilsson offers this as a defense of his department only goes to show that he is basing his defense on the assumption that the oil industry is a bunch of crooks.

Fifth Fallacy

"FIFTH—It gives the oil dealer an opportunity to convince any and all of his customers that his quality of gasoline is good, whenever a customer raises the question that the quality is not what it should be. The dealer can refer the customer to the Division of Oil Inspection and there the complainant can ascertain for himself from a disinterested party as to the truth of the dealer's statement and this procedure makes for co-operation between the customer and the dealer."

Any oil company, or oil dealer, or any other business man who cannot justify his price and his quality to his customers is not entitled to stay in business. The public does not owe that type of man a living. If a state must maintain departments to make up for the lack of sales ability and management and ordinary intelligence in the business men of this country, then we all might as well start for Russia tonight.

Here is the talk that Mr. Nilsson undoubtedly gives to the consumers—the voters—in defense of his department,—to quote his speech:

"As to the benefit enjoyed by the consumers where a good system of oil inspection prevails it may be sufficient to state that they are assured of getting full value for their money by being supplied with a very high grade of gasoline at all times, for the reason that practically the same quality is sold by most dealers throughout the state, thereby eliminating the necessity of carburetor adjustments so that a combustion engine will work satisfactorily on various grades of gasoline."

Reason for Uniformity

IF the facts were really stated truthfully—and we don't wish to accuse Mr. Nilsson as a good sport and individual, of lying, but nevertheless, we must give some attention to his official statement, especially when made in such an official manner—but if the facts were really stated it would be that the public enjoys such uniform high quality of gasoline because of the refiners' own ingenuity, and the good distribution for the public's convenience provided by the marketers.

It is the oil industry that is satisfying its customers and giving them a good product of uniform quality at a good price and not the oil inspection departments of this country.

Then Mr. Nilsson quotes some admirer as follows:

"The question of tests and specifications, for instance as in your state, if made universal, in itself would save the country more money in one year than decent oil inspection would cost in twenty years."

This rather gives the crux of what the oil industry should keep an eye on—propaganda to the public by the organized oil inspectors for the purpose of maintaining themselves in office. The oil industry should prepare itself to properly present the facts on oil inspection to the public that instead of oil inspection saving the public money, it is costing the public quite a few millions of dollars that the public might just as well have in its own pocket.

Aids Tax Collection

AGAIN—Mr. Nilsson makes a great point about how the records of his oil inspection department on gasoline are taken by the state and the gasoline tax assessed thereby. This, he points out, makes for a low cost of collecting the gasoline tax for road purposes. He urges it be adopted in other states. If this thing gets into politics in other states, the chances are that it will not be presented fairly to the public—that the attention of the public will not be called to the fact that, while the gasoline tax may be seemingly collected more cheaply by using the oil inspection department, nevertheless, the public is paying for maintaining the oil inspection department which is absolutely worthless and unnecessary.

It may be soon that the oil inspectors, seeking to bolster up their dying departments, will seize on every means possible to maintain themselves and that they will point out to their governors and legislators how the oil inspection department and the tax assessing department can be consolidated and thus some money "saved" for the state and the public.

This is a fair assumption because oil inspectors have been annexing other duties for some years in order to keep themselves in office. After it got to be a joke to inspect kerosene, and gasoline became the chief product of the oil industry, they undertook to inspect gasoline and every oil man knows what ridiculous inspections they made and how useless those inspections were and are today.

Oil inspection is useless, worthless and an unfair tax upon the industry and upon the public and should be abolished. We urge the oil men to study carefully the encroachment of this oil inspection, because, if they do, we believe they will see an ever increasing invasion of the oil industry by government.

As to these harsh words to some of the fine men individually who are oil inspectors, we are sorry. It is not our fault that they have taken jobs as oil inspectors. We would like to see them much better employed, but if they insist upon being oil inspectors, they must take some of the responsibility for the uselessness, worthlessness, unfairness and unjustifiableness of their offices.

Gypsy Gets 9,000-Barrel Well, Again Extending Tonkawa Deep Pay

By A. F. Hinton
N. P. N. Staff Writer

TULSA, June 21

MOST important of the week's production developments in the Mid-Continent area was the completion of a 9000 barrel well by the Gypsy Oil Co. in the northwest extension of the Tonkawa deep sand area. This well, known as No. 1 Gardner, and located in the southeast corner northeast southwest, 28-25-1W, is the farthest west producer in the field, and is a quarter mile south and one location west from The Texas Co.'s No. 2 Siler, which was reported last week as extending the producing area a quarter mile to the northwest.

The Gypsy well topped the deep sand at 4270 feet and was making 15,000,000 feet of gas at 4274, where it had first oil, flowing at a rate of 30 barrels an hour. It was drilled six feet deeper to 4280 feet and steadily increased its production until it was flowing at the rate of 400 barrels an hour. Although the well is maintaining its big flow, late reports are to the effect that it is beginning to show water but not to any great extent as yet.

The Texas Co. well is now making about 1600 barrels in sand from 4280 to 4289 feet and may be drilled deeper on account of the big production of the Gypsy well.

A number of new locations have been announced in the vicinity of these two wells, including those of Skelly Oil Co., Wentz Oil Corp., Jens Marie Oil Co. and Manahan and others. Barnsdall Corp. has the northwest of Sec. 28, offsetting The Texas Co.'s well to the west and lying north of the 80-acre tract on which the Gypsy well is located. The Texas Co. has south half of northeast of 28, and T. B. Slick has the north half. Wentz Oil has the southeast of 28 offsetting both the new wells. South offset to the Gypsy well is owned by Manahan, Skelly and others, and comprises the south half southwest of 28.

Several good wells were brought in in the Wewoka deep sand pool during the past week, adding about 7,500 barrels to its output. Amerada Petroleum Corp. drilled in its No. 4 Frederick, in the northwest corner southeast northwest of 5-7-8, getting initial production of 2,200 barrels in sand from 4,157 to 4,170 feet. It made about 1680 barrels in the last 24 hours. This company's Nos. 1 and 3 on this lease are making about 3,000 barrels each. W. R. Ramsey's No. 5 Amos, in the southwest corner southeast southeast of 31-8-8, got the deep pay at 4,181 feet and was drilled to 4,192 feet, where it is flowing better than 3,500 barrels a day. Magnolia Petroleum Co.'s No. 4 Davis, in the northwest corner northeast northeast of 6-7-8 was another new well brought in during the week. This well is now making 1140 barrels daily in the deep sand.

Northwest of Wewoka and east of Seminole City, Sinclair Oil & Gas Co. is drilling in its No. 1 Warrior, in the northwest corner of 17-9-7 and it is showing for a well. This well is in the lime pay from 4,040 feet to 4,044 and had 3,000 feet of oil in the hole. It swabbed 30 barrels after drilling to 15 feet in the pay and again began filling up with oil. It is drilling ahead and looking for the big pay in the next 6 feet of depth.

In the Seminole City pool discovered by the Indian Territory Illuminating Oil Co. and where Barnsdall recently drilled in a good well, several wells are nearing pay depths which should be in during the coming week. Among these is the I. T. I. O. Co. No. 2 Dyer, in the northeast of 24-9-6, which was drilling at 3,980 feet at last reports. This well had 300 feet of oil in the hole in a formation from 3,936 to 3,939 feet. Barnsdall Oil Co.'s No. 1 Carter, in the southeast corner northwest of 24, is now flowing 1590 barrels daily and No. 2 on the same lease is making about 350 barrels.

Tidal Oil Company has a new well in this pool in its No. 1, located in the northeast corner southwest of 24-9-6. This well is now shut down at 3,976 and is flowing 52 barrels an hour. It topped the lime at 3928 feet and had a small amount of gas, started flowing at 3945 feet and made 25 barrels an hour till it reached 3975 feet where it hit the big pay. It is a west offset to the discovery well of the I. T. I. O. Co.

In the Okfuskee county area, Amerada Petroleum Corp. took over the operation of the Morgan & Flynn wildcat known as No. 1 Alberti, in the northeast corner northeast southwest of 18-10-11. This well had sand from 3,541 to 3,552 feet and produced 125 barrels of 41 gravity

Summary of Drilling Opening End of May, 1926

Districts	Rigs	Drg.	Completed	Dry	Production
WYOMING					
Big Muddy	1	3	1	0	50
Big Horn Basin	5	11	4	2	30
Carbon County	4	11	4	1	400
Elk Basin	2	1	0	0	000
Fremont County	4	11	3	2	10
Grass Creek	2	3	1	0	85
Lance Creek	2	3	0	0	000
Natrona County	4	8	1	1	000
Osage	3	9	8	2	100
Rock River	2	4	1	0	20
Salt Creek	14	38	41	2	12,450
Teapot	15	00	0	1	000
Miscellaneous	19	51	6	6	000
Totals in Period	77	153	70	17	13,145
Totals Last Period	74	144	51	13	17,680
Difference	3	9	19	4	4,535
MONTANA					
Kevin-Sunburst	20	41	20	9	10,500
Cat Creek	3	6	4	1	150
Miscellaneous	17	29	8	7	Gas
Totals in Period	40	76	32	17	10,650
Totals Last Period	36	75	37	15	12,290
Difference	4	1	5	2	1,640
OTHER STATES					
North Dakota	2	3	1	1	000
South Dakota	2	3	1	1	000
Western Nebraska	2	2	1	1	000
Western Kansas	10	22	14	5	1,000
Idaho	2	2	0	0	000
Nevada	1	1	0	0	000
Utah	12	16	2	2	000
Colorado	11	33	8	7	4,000
Arizona	5	8	3	0	000
New Mexico	14	40	17	9	700
Totals in Period	61	130	41	26	5,700
Totals Last Period	55	132	39	18	3,500
Difference	6	2	8	8	2,200
RECAPITULATION					
Wyoming	77	153	70	17	13,145
Montana	40	76	32	17	10,650
Other States	61	130	47	26	12,290
Totals in Period	178	359	149	60	36,085
Totals Last Period	165	351	127	46	33,470
Difference	13	8	22	14	2,615

Completions in Oklahoma and Kansas, Week Ending June 19

OKLAHOMA

Caddo County

Company	Well No.	Location	Depth	Init'al Prod.
Briscoe-Hall	1	SE SW SE 31-6-9W	1842–2265	60

Carter County

Company	Well No.	Location	Depth	Init'al Prod.
Simpson-Fell	2	SWc NW 34-1-3W	3036–3085	450
Twin State	1	SEc SW SW 15-2-3W	3168–3294	20
Humble	8	SE NE NE 22-2-3W	2487–2955	200
Coline	7	SEc NE 7-2-2W	1673–1679	5M
Magnolia	1	NWc SW 15-2-2W	1007–1064 OWD	60

Creek County

Company	Well No.	Location	Depth	Init'al Prod.
Magnolia	1	NEc NW NE 7-18-7	2500–2522 OWD and 3½ M	62
Savoy	4	SEc NW SE 22-17-8	2356–2388	60
Tex-Pacific	5	SWc SE NE 12-14-8	2363–2400	5
Tibbens	11	NE NW NE 13-14-8	2370–2414	30
Bartlett	1	CEL NE NW 30-18-9	2176–2208	25
Simmons et al	1	SWc NW SE 4-18-10	2109–2114	3M
Benson	1	NWc NE 5-18-12	2340–2363	15
Deens et al	2	SEc NE SE SE 10-17-11	1615–1690	10
Iron Mountain	1	SWc SE SW 34-16-11	2189–2212	50
Carter	1	NEc SE NW 31-15-9	2310–2356	15
Tibbens	1	CWL E½ E½ NW 5-14-9	3080–3096	40
Mid-Cont	5	SWc SE NW 32-14-10	3420–3431	150
Prairie	2	C NE SE SW 3-17-9	2010–2040	50
Roxana	1	SEc NW 5-17-8	T.D.3673	Dry
Barnsdall	4	SWc 26-17-8	T.D. 507	Dry
Bu-Vi-Bar	2	SWc SE NW 26-15-8	T.D.3235	Dry
Burk-Greis	1	NEc SE NE 5-17-11	T.D.2540	Dry
Evans et al	1	NEc SE 5-14-10	T.D.3185	Dry
Wood	2	SEc NE SE 30-14-10	T.D.3537	Dry

Garvin County

Company	Well No.	Location	Depth	Init'al Prod.
Magnolia	8	SW NW SE 16-1-3W	1877–1885	2M
Tex-Pac	1	NWc NE 21-1-3W	T.D.2175	Dry

Grady County

Company	Well No.	Location	Depth	Init'al Prod.
Sinclair	4	CEL NE SE 22-5-8W	2080–2403	16M
Prairie	2	C SE NE 34-8W	T.D.2138	5½ M

Hughes County

Company	Well No.	Location	Depth	Init'al Prod.
Josey	5	SEc NW 1-9-9	3363–3394	150

Jefferson County—Seay

Company	Well No.	Location	Depth	Init'al Prod.
Brown	5	SWc SE NW 33-6-5W	1237–1244	180
Gypsy	24	NE NE NW 33-6-5	1303–1324	125
Gypsy	25	NW SW NE 33-6-5	1250–1270	125

Kay County

Company	Well No.	Location	Depth	Init'al Prod.
Polling-Denny	3	SEc NE SE SW 4-27-1W	3439–3446 OWD	250
Carter	1	NEc NW NE 29-29-1E	T.D.3720	Dry

Lincoln County—Davenport

Company	Well No.	Location	Depth	Init'al Prod.
Magnolia	3	NEc SW SW 3-14-5	3446–3476	50
Prairie	21	NE NW 3-14-5	2617–2632	3½ M
Magnolia	1	10-14-5	T.D.3498	Dry

Lincoln County

Company	Well No.	Location	Depth	Init'al Prod.
Mid-Cont	5	SWc NW 8-15-6	3817–3821	1400
Mid-Cont	6	SEc SW NW 8-15-6	4079–4084	435
Wilcox	3	NEc NW NW 22-14-6	3018–3051	16

Noble County

Company	Well No.	Location	Depth	Init'al Prod.
Nelson et al	1	NWc SE 32-20-1E	T.D.5086	Dry

Nowata County

Company	Well No.	Location	Depth	Init'al Prod.
Prairie	25	SWc NE SW SW 31-25-17E	440– 478	20

Okfuskee County

Company	Well No.	Location	Depth	Init'al Prod.
Mal De Mar	1	NWc 12-13-8	T.D.4106	Dry
Dalton-Baker	1	SEc SW SE 18-12-8	T.D.4330	Dry
Independent	2	C SW SE 15-12-11	T.D.3542	Dry
Newman	1	SWc SE NW 2-10-12	T.D.3424 OWD	Dry
Fisher-Carter	2	SEc 7-10-12	T.D.3195	Dry

Okmulgee County

Company	Well No.	Location	Depth	Init'al Prod.
Devonian	6	CEL SE 24-16-12	2198–2216	120
Holmes	1	NEc SE SE 7-14-11	2448–2467	50
Johnson et al	6	CNL SW NW 22-14-12	1980–1988	170
Morton	3	C NW NE 7-12-12	2571–2652	150
Elliott-Vensell	5	NWc SE SW 18-15-14	1840–1860 OWD	15
Phillips	1	SEc NE 23-15-12	T.D.2683	Dry
Phillips	2	SEc NE 23-15-12	T.D.1567	Dry
Wigton-Long	1	NWc SE SE 29-13-11	T.D.3308	Dry
Wireck-King	1	SEc NE 31-11-12	T.D.3085	Dry
Page	1	SWc NW NE 19-15-13	T.D.2745	Dry
Kingwood	5	SEc NE NE 6-12-14	T.D.2845	Dry

Osage County—Burbank

Company	Well No.	Location	Depth	Init'al Prod.
Phillips	13	NWc SW 1-27-5E	2990–3026	480
Phillips	2	SEc SE SE 7-27-6	2946–2996	250
Phillips	4	SEc 7-27-6	2926–2990	997
Mid-Kans	1	NWc 22-26-6	2942–2978	65
Phillips	3	NW NE NE 28-25-6	2706–2716	400
Prairie	6	NEc SW SE 21-25-6	2673–2716	100

Osage County

Company	Well No.	Location	Depth	Init'al Prod.
Oliphant	1	SEc SW SE SE 19-25-8E	2427–2462	35
Devonian	15	NWc NE SW 34-25-11	1665–1692	50
Tidal	3	NEc SW NE SE 20-24-9	2175–2237	100
Peters	5	CSL NE 32-24-9	2524–2529	150
West. American	10	NEc SW NE 28-24-10	1180–1202	1
Mid-Kans	2	NEc SE NE SE 10-21-10	2340–2400	50
Mid-Kans	7	SEc NW SE NW 11-21-10	2115–2117	25
Elliott-Smith	24	SWc NE NE NE 30-21-12	1666–1677	63
Plymouth	1	SE NW NE NE 1-24-11	T.D.1856	Dry
Smith	1	CNL NW 33-21-10	T.D.1973	Dry
Hivick	1	NEc NW 13-20-10	T.D.2580	Dry
Keener	11	SWc NE SW NE 15-20-10	979–1024	50
Brown	11	NE SW SE 15-20-11	966–1001	10

Pawnee County

Company	Well No.	Location	Depth	Init'al Prod.
Magnolia	1	NWc SW 2-20-6E	3020–3041	7½M
Homa Wood	1	SEc SW 25-21-6E	T.D.3071	Dry
Enesco	1	NEc SE 2-20-7E	T.D.2808 OWD	Dry
Watchorn	7	SWc SE SW 33-23-3E	T.D.4455 OWD	Dry

Payne County—Mehan

Company	Well No.	Location	Depth	Init'al Prod.
Amerada	3	NEc SE SE 23-18-3E	4220–4225 OWD	3M
Shaffer	3	SWc NW SW 23-18-3	4242–4290	133, 5M
Empire	2	SWc NW NW 26-18-3	4321–4327	400
New England	2	NWc NE NW 26-18-4E	1961–1971	185

Payne County

Company	Well No.	Location	Depth	Init'al Prod.
Wentz	1	NWc NE SW 23-20-4E	T.D.4050	Dry
Josey	2	CEL NE NW 2-18-5	T.D.2787 OWD	Dry

Seminole County

Company	Well No.	Location	Depth	Init'al Prod.
McMan-Magnolia	6	NEc SE SW 34-11-8E	3353–3382	55
Independent et al	2	NEc SE 7-9-8	3271–3312	65
Dixie	5	SWc SE SW 28-8-8	4186–4198 OWD	20

Stephens County

Company	Well No.	Location	Depth	Init'al Prod.
Carry	1	SEc NW SE 24-1-9W	2263–2277	20
Malernee-Dunlap	8	CEL NW SW 20-10SW	2020–2036	590
Big 12	5	SEc SW 27-1-8	1405–1460	5M
Empire	34	NEc SW SW 33-1-8W	1650–1652	32
Magnolia	3	SWc NW NE 3-2-5W	2500–2515	30
Kidney	1	NEc SE NE 28-1-8W	T.D.2255	Dry

Tulsa County

Company	Well No.	Location	Depth	Init'al Prod.
Holmes et al	3	CSL SE SW 14-19-10	T.D.2632 OWD	Dry
King	1	SEc NW 4-19-12	T.D.2098	Dry
H & N	2	NW NE NW NE 9-17-14	T.D.1538	Dry
Dickson	2	NWc SW SW 12-16-13	T.D.2005	Dry

Wagoner County

Company	Well No.	Location	Depth	Init'al Prod.
Stogdill et al	4	SEc NW 25-17-16	T.D.1317	25

KANSAS

Butler County

Company	Well No.	Location	Depth	Init'al Prod.
Ark. River	12	C SE SW 20-23-4E	2108–2112	10
Tatlock-Vickers	1	C NE NE NW 29-25-4E	2670–2671	120
Black et al	4	C SE SW SE 22-27-7	2737–2763	80
Connell et al	1	C SW SW SW 22-28-6E	T.D.3305	Dry
Shawver et al	1	C SW SW NE 19-29-5E	T.D.3307	Dry

Coffey County

Company	Well No.	Location	Depth	Init'al Prod.
Kimbley	1	C SE SE SE 18-21-14	T.D.1800	Dry
Scott Creek	1	C SE SE SW 23-21-16	T.D.1345	Dry

Cowley County

Company	Well No.	Location	Depth	Init'al Prod.
Watchorn	1	C NE NW NW 20-34-8E	T.D.3130	Dry

Greenwood County

Company	Well No.	Location	Depth	Init'al Prod.
Sinclair	40	CEL W½ W½ SE 19-22-10E	T.D.2480	Dry
Phillips	1	C NW NE SW 5-22-12	T.D.1895	Dry
Prairie	2	SWc NW NE 1-23-9	2425–2484	50
Day et al	2	C SW SE SW 1-22-10	2034–2107	750
Theta	10	C NE SW SE 8-22-10	2278–2351	50
Theta	11	C NE SE SW 8-22-10	2302–2353	75
Tidal	4	SWc NW SW NW 29-22-10	2416–2466	200
Empire	6	C NE SE SE 15-22-11	1886–1912	35
Simmons et al	4	C SW NE NW 19-22-11	2064–2068	5
York State	9	C SW NW SE 32-22-11	1907–1970	150
Simmons et al	7	C SW SE NW 4-22-12	1873–1899	150
Texas	2	C SW NW NE 4-22-12	1810–1840	75
White Eagle et al	7	CSL SE NW SE 19-23-9	2592–2621	150
Mission	7	SWc NW NW 27-23-13	1642–1664	15
Mid-Cont	11	CEL SW NE NE 29-23-13	1678–1710	10
Richey-Moore	2	C NW SW SE 19-24-11	1845–1857	45
McGinnis	5	C SE NE NW 30-23-11	1828–1850	100
Mid-Kans	8	NEc NW SW NW 20-25-9	2330–2395	100

Lyon County

Company	Well No.	Location	Depth	Init'al Prod.
Theta	1	C SW SE NW 30-21-10	2223–2234	50
Sheedy et al	7	C NW NE SW 31-21-10	2172–2206	50
Phillips	10	SWc NW SE NW 33-21-12	1877–1936	100
Phillips	11	C NE SW SW 33-21-12	1895–1948	100
Denton et al	1	C NW NW NW 20-19-12	T.D.2030	Dry

Marion County

Company	Well No.	Location	Depth	Init'al Prod.
Allen et al	1	C SE SE SE 29-19-5E	T.D.2597	Dry
Prairie	17	SW SE 17-21-5	T.D.3055	Dry

Russell County

Company	Well No.	Location	Depth	Init'al Prod.
Valerius	1	C NE NE SE 18-12-15W	2986–2995	215

Woodson County

Company	Well No.	Location	Depth	Init'al Prod.
Pure	10	SWc NW SW NE 6-24-14E	1707–1730	100
Fields et al	1	C NW NW SE 9-25-14E	1490–1509	2M

crude in nine hours. It was then drilled to 3565 feet and went into water, after which it was plugged back and given three small shots from 3539 to 3562 feet.

After the shot, it produced 260 barrels in the first 24 hours. Amerada is drilling another well north of this location and has ordered rigs for two more tests.

One of the deepest holes ever drilled in Oklahoma is now being plugged for abandonment after getting a hole full of water at 5408 feet. It is the Bu-Vi-Bar Petroleum Co.'s No. 1 Snyder in the northwest corner southwest of 28-21-1W, in Noble county, near Perry.

Panhandle Output Gains

PRODUCTION in the Amarillo field Texas Panhandle, averaged 48,985 barrels daily the past week from 174 wells, as compared with 45,354 barrels from 163 wells the preceding week. An important well of the past week was the Double Five Oil Co. No. 1 Cockrell, in the northwest corner of Sec. 2, Block Y, about a half-mile south of production, in Hutchinson county. This well was drilled to 3048 feet and was shot with 120 quarts, according to reports, after which it started off flowing 40 barrels an hour.

(Continued on page 54)

Type A

Type No. 24

Standardize on One of These Two Tank Faucets

HERE are two Wheaton tank faucets, both of which give 100% satisfaction. Some companies standardize on Type A while others standardize on Type 24. Each faucet has only one peer—*and that's the other!* More important than a choice between them is a definite and final decision to *standardize* on one, and then forget for all time that there is any other faucet.

A. W. WHEATON BRASS WORKS, NEWARK, N. J.

Wheaton

Completions in North Louisiana and Arkansas, Week Ending June 17

ARKANSAS

Union County—El Dorado District

Company	Well	Location	Depth	Yield
Crosby	Lawton A-7	10–16–15	2594	60 20% s.w.
H. L. Hunt	H. O. Murphy No.1	4–17–16	2120	12
Magnolia Pet. Co.	Slaughter No. 6	9–17–16	2117	50
Miller & Cottingham	Slaughter No. 6	9–17–16	2117	75
Moco Oil Co.	Hennikin No. 5	5–16–15	2532	Junked & aband.
Pure Oil Co.	Harrel No. 1-E	4–17–16	2138	200
Ravenger Oil Corp.	Harrel No. 2	15–17–16	2152	20
Rowe-Daniels	Tatum No. 11	7–16–15	2563	19
So. Oil Purchs. Co.	Slaughter No. 2	3–17–16	2107	37

Nevada County—Barham District

Zing et al.	Blakely No. 1	27–13–20	1228	dry, aband.

Nevada County—Sutton District

Fruen, et al.	Whitehead No. 1	27–13–21	1269	dry, aband.

Nevada County—Nevada District

Company	Well	Location	Depth	Yield
Humble Oil Co.	Groves C-1	1–14–21	1110	20m. ft. dry gas

Union County—Upland District

Lion Oil & Refg. Co.	Coombs No. 1	25–18–16	3015	dry, aband.

Ouachita County—Stephens District

Gordon-Folwell	Jones No. 1	36–15–20	2216	12
Gordon-Folwell	Jones No. 2	36–15–20	2193	15
J. W. Hunter estate	Dalton No. 1	21–15–19	1542	dry, aband.

TEXAS

Panola County

Magnolia Pet. Co.	John Lewis No. 2 B. C. Jordan H. R. S.		2012	19m. ft. gas

Completions in N. & C. Texas & Panhandle, Week Ending June 19

Archer County

Company	Well Farm	Location Survey	Depth	Initial Prod.
Tidal	1-Thompson	ATNC	1394–1397	25
Pandem	1-Thomas	Thomas	1153–1160	50
Maer-Stanforth	2-Cross	Meade Past.	1432–1451	62
Clark-Harbin	2-Echols	SAR	1326–1331	80
Clark-Harbin	3-Echols	SAR	1327–1331	80
Camp	6-Rocking	BBB&C	1163–1179	4
Duffery et al.	1-Murray	Benton	T.D.1790	Dry
Humble	3-Nichols	ATNC	T.D.1670	Dry
Raynor et al.	1-Parrish	ATNC	T.D.1390	Dry
Carter et al.	1-Wilson	Harris	T.D.1786	Dry
Riley	1-Wilhelm	CP	T.D.1406	Dry
Dale	1-Meade	Meade Past.	T.D.1500	Dry
Flowers et al.	1-McCarty	Brown	T.D.1452	Dry
Hines	1-Anderson	SAR	T.D.1502	Dry
Magnolia	2-Lauster	SP	T.D.2371	Dry
Litchfield et al.	1-Richardson	Scott	T.D.1350	Dry
Scruggs et al.	1-Morrison	TEL	T.D.1002	Dry
Clark	1-Herron	TEL	T.D.1505	Dry

Baylor County

Head et al.	1-Stephens	TEL	T.D.1700	Dry

Brown County

Barbour	2-Newton	Mitchell	T.D.1340	Dry
Mooreman	5-Byrd	Mitchell	T.D.1315	Dry
Slick	1-DeBusk	Williams	T.D.1485	Dry
Andrade et al.	1-Conklin	Armstrong	T.D.1504	Dry
Moore et al.	1-Beal	HBT	T.D.1268	Dry
Hayes et al.	1-Reed	Goodman	T.D.1560	Dry
Phillips	3-Dunn	Delgado	1150–1168	60
Smith et al.	18-Dunn	Delgado	1128–1139	60
McLester et al.	4-Clark	Sec 158	1187–1212	65
McLester	7-Clark	Sec 158	1180–1204	75
Gholson	4-Williams	Pruitt	1116–1134	15

Callahan County

Canyon	3-Derrington	Anderson	1403–1417	195
Andrews	1-Pippin	TEL	T.D.2485	Dry

Carson County—Panhandle

Marland	1-Burnett	I&GN	3095–3134	15
Marland	5-Burnett	I&GN	2983–3006	700

Coleman County

Magnolia	16-Morris	Davidson	720– 730	3M
Burk-Greis	2-Dibrell	Hicks	1907–1925	150
Mid West	1-Dibrell	Hicks	1852–1860	12M
Howard	1-Stearns	MEP	T.D.1504	Dry

Eastland County

Roberts	1-Gullett	McLennan	T.D.1666	Dry

Gray County—Panhandle

Wilcox	3-Phoebe	....	2970–2978	3400
Anderson	1-Bradfrod	H&GN	3650–3810	18M

Hutchinson County—Panhandle

McMan	2-Holmes	M&C	2710–2763	1710
Smith Bynum	1-Whittenburg	M&C	2865–2935	400
McIlroy et al.	1-Smith	M&C	2907–3006	2280
Canadian River	2-Kingsland	M&C	2975–3045	130

Jack County

Baytex	1-Snedecker	Robbins	779– 782	26
Kerbow	1-Pickrell		T.D. 800	Dry
Illsing	1-Allen	Allen	T.D. 700	Dry
Walker-Scott	1-Carter	TEL	T.D. 700	Dry

Montague County

Company	Well Farm	Location Survey	Depth	Initial Prod.
Texas	7-Rowland	Chambliss	115–141	127
Texhoma	7-Rowland	Chambliss	820–1069	58
Texhoma	9-Rowland	Chambliss	1170–1193	50
Pure	6-Maddox	Arnold	938– 966	20
Flemming et al.	4-Hynds	Wall	922– 936	50
Benton-Woods	8-Hynds	Wall	869– 881	40
Humble	3-Hynds	Wall	890– 992	75
Humble	4-Hynds	Wall	906– 911	70
Humble	5-Hynds	Wall	894– 904	65
Texas	7-Gist	Donahoe	928– 946	30
Texas	8-Gist	Donohoe	886– 892	100
Texhoma	4-Hynds	Wall	894– 920	47

Palo Pinto County

Moore-Snebold	1-Robinson	TP	T.D.1440	1M
Hart	2-Cardwell	TP	T.D.3841	½M

Shackleford County

Amerada	1-Cook	ET	1323–1327	10
Rosier-Pendleton	1-Cook	ET	1337–1369	850
Rosier-Pendleton	12-Cook	ET	1308–1324	500
Rosier-Pendleton	8-Cook	ET	1324–1349	700
McCurdy et al.	1-Ledbetter	TEL	T.D. 805	Dry

Stephens County

Provident	1-Nolan	TEL	T.D.4085	Dry
Tex-Pac	1-Hancock	TP	3200–3240	500
Gulf	3-Satterwhite	TP	T.D.3406	33
Kleinfelder	4-Grimes	LAL	3204–3244	25
Rhodes et al.	4-Crowley	TEL	T.D.3240	20
Tex-Pac	65-Binney	TP	1884–1894	75
Humble	7-Smith	TP	T.D.1744	30 & 4M

Wichita County

Winnipeg	1-Waggoner	H&TC	T.D.2607	Dry
Humble	6-Waggoner	H&TC	T.D.2648	Dry

Wilbarger County

Humble	11-Waggoner	H&TC	1899–1907	30
Phillips	10-Waggoner	H&TC	1844–1861	210
Humble	4-Waggoner	H&TC	2386–2396	20
Humble	5-Waggoner	H&TC	2314–2334	54

Young County

Chenault-Lee	2-Roching	BBB&C	1164–1173	50
Sun	2-Deitrick	BBB&C	1168–1171	200
McElreath et al.	1-Snyder	Wilson	597– 583	8
Reed et al.	1-Jack	Young	552– 557	28
Stafford-Hayes	1-Dailey	Tynes	561– 524	24
Dyer	1-Costello	Johnson	T.D.2900	Dry
Eagle Creek	2-Cheeves	Akles	T.D.1106	Dry
Barkley et al.	1-Dean	Young	T.D. 556	Dry
Wolfe	1-Blackman	Wilson	T.D. 765	Dry
Panhandle	1-Gain	TEL	T.D.1046	Dry
Simms-Security	1-Bryan	TEL	T.D. 980	Dry
Wolfe et al.	1-Farrow	TEL	T.D.1190	Dry
Newberg Foster	1-Speers	Stoneman	T.D. 830	Dry
Wolfe	1-Brown	Stoneman	T.D. 600	Dry
Lowry et al.	1-Stewart	Tynes	T.D. 631	Dry
Roberts	1-Gillmore	Young	T.D. 654	Dry
Pois-Weaver	1-Whitehead	TEL	T.D. 950	Dry
Hubbard	1-Harrison	TEL	T.D.2872	Dry
Bridwell-Heydrick	1-Rogers	TEL	T.D. 937	Dry

(Continued from page 52)

Westex Oil Co. No. 3 Whittenberg, in southwest corner southeast of Sec. 13, Block Y, north offset to the Dixon Creek Oil Co. lease has bottom of hole at 2934 feet and started off flowing about 80 barrels an hour after a shot.

WHITE EAGLE OIL & REFINING CO.'S No. 2 Smith, in the southeast corner, northwest northeast of Sec. 11, Block Y, is reported to be flowing 1100 barrels after a shot.

Humble Oil & Refining Co. entered the Panhandle field as a crude buyer and announced a new scale of crude prices taking present scale and continuing it upward through five additional grades to 44 gravity and above with top price of $2.15. This makes 17 grades for Panhandle crude, starting at 28 to 28.9 at $1.35, with 5 cents increase for each degree of gravity to 44 and over.

Derby Oil Co. completed its No. 1 Johnson in Tract 8, Mary Whitley survey, just east of the Phillips camp, and it is reported flowing 1100 barrels after a small shot from 2965 to 2979 feet. This company also is drilling No. 2 on this tract and another test in Sec. 20, Block Y.

Fry-Blackburn No. 1 Whittenberg in the northeast corner southeast of Sec. 19, Block Y, just east of the town of Borger, is flowing 500 barrels daily after a shot of 300 quarts from 2976 to 3044 feet.

—and now: the Rolls-Royce of pumping equipment!

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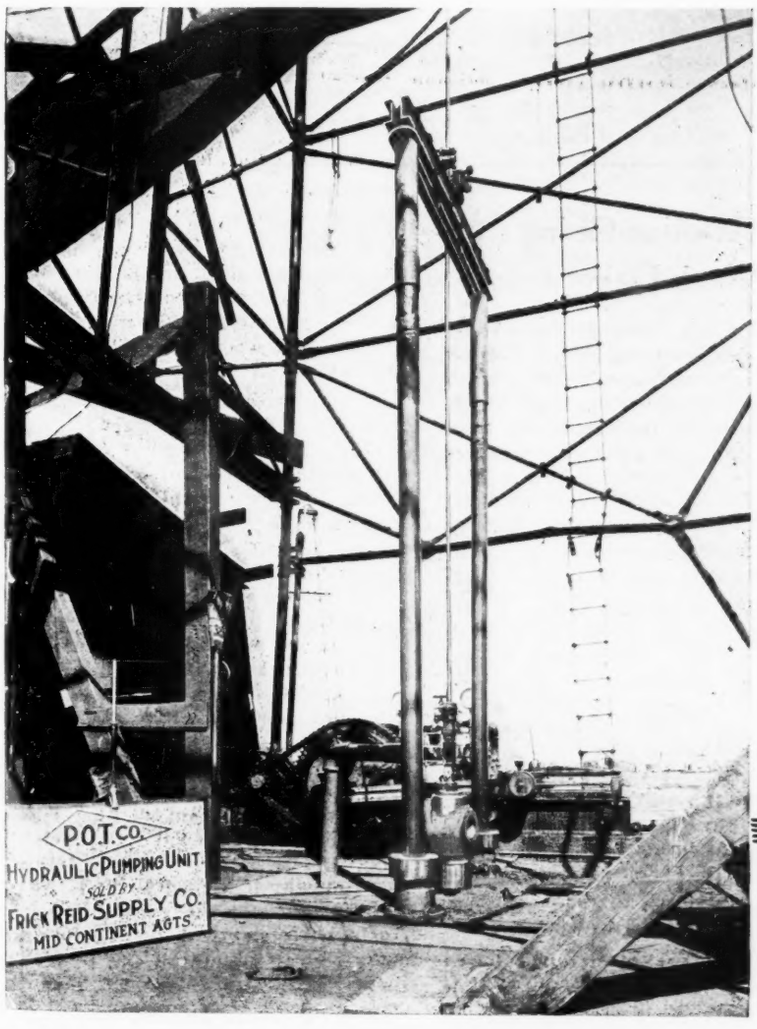
Write for illustrated booklet giving detailed information.



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National Petroleum News
802 Caxton Bldg., Cleveland, Ohio

Proved Acreage in California Totals 121,000 Acres

CLEVELAND, O., June 19—California operators, during 1925, proved 2457 acres in that state for oil and gas and the total proved acreage of the state on March 1 of this year was 121,436 acres. The figures were compiled by R. D. Bush, state oil and gas supervisor, for the purpose of fixing the assessment to collect the amount required to maintain the department.

The statute under which the department functions permits the collection of a maximum of $185,000 for a fiscal year. The supervisor's estimate of the amount required for the current fiscal year is well under the maximum, being $156,000. The division of assessment will be one-tenth of the total against proved acreage and the remainder against oil and gas produced in 1925. For this purpose, 10,000 cubic feet of gas is considered as equal to one barrel of oil.

Of the total proved acreage in the state, 22,673 acres are owned by federal, state, city governments and not subject to the assessment.

The total production of net oil in 1925 according to sworn statements is 228,246,250 barrels, an increase of 5,270,309 over 1924. The total quantity of gas produced and sold is 104,269,770,000 cubic feet. The rate per barrel of oil and per ten thousand cubic feet of gas is $.00058825, slightly over 58 hundredths of one mill per unit, to yield a total of $140,400.

The following table gives the quantities of proved oil land, oil, gas and number of producing wells in various counties of the State:

County	Total Proved Land (Acres)	Assessable Proved Land (Acres)	Oil (Bbls.)	Gas (10 M. cubic ft.)	Wells (No.)
Fresno	14,636	14,448	7,719,436	2,622	969
Kern	76,398	56,173	57,887,686	2,248,884	5,931
Los Angeles	11,239	9,533	120,761,631	5,811,040	2,807
Orange	6,630	6,186	30,073,959	1,116,243	979
Ventura	4,228	4,118	9,184,908	1,172,535	571
Santa Barbara	7,823	7,823	2,574,103	75,653	354
San Luis Obispo	402	402	29,424	.....	11
Santa Clara	80	80	10,978	.....	9
San Mateo	.....	.....	885	.....	3
San Bernardino	.....	.....	3,240	.....	1
Totals	121,436	98,763	228,246,250	10,426,977	11,635
			Rate per bbl. of oil.	Rate per 10,000 ft. of gas	
Rate		80.1579	$0.00058825	$0.00058825	

Better Gasoline Going into North Dakota

CLEVELAND, June 19.—Relatively more gasoline meeting U. S. Motor specifications was shipped into North Dakota in 1925 than in 1924, C. S. Ladd, chemist for the state food commissioner, says in an analysis of gasoline and kerosene inspection during 1925 issued by the commissioner as "Bulletin No. 12". There is still considerable room for improvement, he adds.

Last year the state chemist tested 3327 samples of gasoline falling within the state's Class 2 specifications which are the same as U. S. Motor specifications. These 3327 samples had an average A. P. I. gravity of 58.4°; initial boiling point of 103° F.; 20 per cent over at 201°; 50 per cent over at 270°; 90 per cent over at 375°, and end point of 430°. Of the 3327 samples 882 samples failed to pass specifications as follows: 16 for boiling point; 66 for 20 per cent point; 172 for 50 per cent; 125 for 90 per cent; 320 for end point; 49 for color and 134 for corrosion.

Of 3203 samples of gasoline tested (the disparity between 3327 and 3203 is not explained) 2577 were O. K., 537 passable, that is, they would be brought up to specification by proper blending with lighter gasolines, and 87 were illegal or falling below the tolerances allowed by the state. Of 2376 samples tested in 1924, 1833 were O. K., 487 passable and 56 illegal.

Eleven hundred twenty-five samples of kerosene had an average gravity of 41.1° A. P. I., flash point of 137° F., end point of 554° and 0.038 per cent sulfur. Forty-six samples failed because of color, 37 because of flash point; three on account of end point, and 21 because of sulfur content.

The bulletin also contains the volume of gasoline and kerosene shipped into the state by the various oil companies within the state during both 1925 and 1924.

Refinery at Tuscon

TUSCON, ARIZ., June 19.—The 300-barrel skimming plant of the Tuscon Oil & Refining Co. will start operating about July 1. This is a new refinery. The company is headed by F. E. Snowden, who is also the general manager. He formerly was with the Ventura Refining Co., at Fillmore, Calif. P. McVey Jones is superintendent of the new plant.

Indicative of High Operating Efficiency For Oil Producing Industry

By V. B. Guthrie
N. P. N. Managing Editor

FOR the oil industry at large, the Oil Field Equipment Standardization Program, now coming into fruition after five or six years of work, means that the producing branch of the industry, and the allied manufacturing and oil field supply companies, are carrying out the latest accepted practice of the general industrial world looking toward greater economy and efficiency in operation.

The word standardization has appeared in the news and editorial columns of this and other oil papers the past few years, accompanied by such highly technical details as to make the whole issue confusing to the average oil man. In fact, in its detail the whole matter is so technical in nature that the man in other branches of the industry need pay but passing attention to it.

However, every oil man should know enough about this standardization work to appreciate that it will bring about in the not far distant future operating economies in material and time which will run into many millions saved in drilling and producing and storage operations annually—savings which it is conceivable may provide the public with its oil needs at lower prices than could otherwise prevail.

In these days of criticism of the oil industry because of its prices and operating methods, not only by politicians but from other sources, even inside the industry, it well behooves every oil man to know enough about this standardization program to tell friend and critic alike that here is an industry whose engineering leaders have set about to police their operating methods in drilling wells and producing oil to the end that duplication and elimination of obsolete and unnecessary sizes and types of its tools and equipment may be brought about, and interchangeability of parts where practicable.

Self-Assigned Task

THE oil industry has done this voluntarily and was one of the first industries to start this work. Other lines of manufacturing have adopted this program later, some at the suggestion of the government and with the aid of an established government department to supervise standardization work or simplified manufacturing practice. The oil industry is accomplishing this cutting down of unnecessary types and sizes and providing of interchangeability of parts as turned out by various manufacturers, not by these manufacturers getting together and saying, "here is what we can most profitably turn out;" but by these same manufacturers and the engineers for the oil companies meeting together, the oil company engineers telling what they believe will best suit their needs, and the manufacturers then seeing how they can fit those ideas into their established factory operations and system of distributing supplies.

Naturally this has not been accomplished without sacrifice of time and money and business by the manufacturing companies and supply houses. This angle of the work has had little said concerning it so far. The changing of such a simple thing as the number of threads to the inch and the pitch of the threads on a piece of pipe, involves the expenditure of time and money which the layman can hardly appreciate. To bring about such a relatively simple change in equipment such as casing, for example, there must first be conferences of oil company engineers and engineers for the manufacturing companies, gathered together from all oil fields in the country. The drafting departments of the manufacturing companies must prepare drawings of the proposed changes. These may be revised several times. Practical agreement of all makers and users of this particular equipment must be secured. Patterns must be drawn, a master gage secured, working gages issued to manufacturers, and the change in factory routine provided to allow manufacture of the new standardized piece of equipment.

Sudden Change-Over Impossible

BUT even this much is a long way from all the work and cost to the manufacturer of making such a change. While this preparatory work is going on he must be turning out this product in its old former design to meet the needs of his oil company customers who cannot shut down their drilling wells until standardized equipment is available. The manufacturer must keep stocks of the old equipment spread out even to his remote supply depots in the newest oil fields, or the oil field supply company must do it for him.

The manufacturers must agree among themselves as to the time they will all announce their introduction of the new standardized piece of equipment. Then each faces the individual problem of cutting his stocks of the old equipment down and running out of this as he is able to turn out the new piece in increasing quantities and as his customers cease demanding the old. All of which represents a real sacrifice to the manufacturers and supply houses.

Here are a few examples of items of cost to the manufacturers of oil field equipment in this standardization work. One large manufacturer of sucker rods estimates it has lost so far this year $100,000 worth of orders for this equipment, which it has not been able to fill because of keeping its stocks down to allow for manufacture and distribution of standardized sucker rods.

Another manufacturer says his costs in providing for putting on the market standardized rig irons is $42,000 to date. The drafting department of one big eastern mill was virtually turned over to the standardization work for six months. The manufacturing companies have cheerfully borne this cost.

As for the time that will be required to convert the plant to an absolute A. P. I. standard basis, it would be much shorter if only the domestic industry were involved. The foreign producing industry buys large quantities of drilling and producing equipment from American manufacturers and the change from the material that has been used in the past will be certain to come more slowly than in the United States. Foreign fields contiguous to the United States, such as those of northern South America, Mexico, where the influence is markedly American, will, of course, come to the A. P. I. standard equipment as quickly as does the domestic industry, but there are fields in Europe, the Orient, Africa, where many operators will be reluctant to make a change. Manufacturers will be compelled, in many cases, to supply old style equipment for a long time to keep this business, it is likely.

Benefits Are Fast

THE man who is familiar enough with manufacturing or distributing problems to realize the work involved in making a change, even a minor one, in the plant schedule, may well ask if the benefits are commensurate with the cost. There is no doubt on this point, as far as the direct economies in time and money are concerned, and there are indirect benefits to result which doubly insure the value of the work.

The various standardization committees have made estimates of the direct

a 25,000,000 barrel leak!

The deep, narrow slot of the Wiggins seal — the only surface ever exposed to evaporation. In passing over horizontal rivets it is opened only slightly at the top, remaining closed at the bottom. As it moves farther upward it closes at the top and opens slightly at the bottom. The width of the opening is only the height of the rivet heads. The depth of the slot causes the small surface exposed to be blanketed with heavy vapor.

The sealed gastight vapor space (1/10 actual size). Compare this small volume with the vapor space of the ordinary gastight tank. This seal not only stops evaporation and fire, but performs the mechanical duty of separating air or gas accidently pumped into the tank with the oil.

The oil level line.

THE yearly loss in the oil industry through evaporation even at this late date may be 25,000,000 barrels! This loss is as definite and final as though the oil were wasted by pouring out on the ground.

If you could see your contribution to this enormous total as a leak flowing from your tanks, would there be any question about immediate measures of prevention?

The Wiggins Roof is the most effective means of reducing evaporation losses to a minimum. It completely blankets the oil surface and seals the roof completely at the tank side with a fire safe seal. Losses through evaporation, thermal breathing, and splash-over are eliminated.

Investigate this thorough means of preventing evaporation losses. Complete information on the Wiggins Roof or quotations on it for present tanks or on tanks and roofs complete will be given on application.

Chicago Bridge & Iron Works

Chicago, 2125 Old Colony Bldg.
Cleveland, 2206 Union Trust Bldg.
Atlanta, 1050 Healey Bldg.
New York, 3145 Hudson Terminal Bldg.
Dallas, 1639 Praetorian Bldg.
San Francisco, 1060 Rialto Bldg.

WIGGINS ROOF

Commerce Secretary Commends Standardization Program

Editor-
National Petroleum News,

IN co-operating for greater efficiency and productivity, for the maintenance and improvement of high levels of quality, and for the elimination of waste, American industries are making an essential contribution to our national welfare. Every step in simplification and standardization reveals opportunity for further progress in technical and scientific research which will bring resultant benefits to the industry and to the public. By such co-operation, which preserves the initiative of the individual and of the various phases of the industry, there is developed industrial self-government in its highest form. The oil industry is to be commended for its progress.

Herbert Hoover

Herbert Hoover, Secretary, United States Department of Commerce.

saving to the oil company operators through the use of standardized products in the line of equipment each is studying, and these run from $1,000,000 to $5,000,000 for each committee. In rig irons, the iron fittings that go on the derrick to provide for handling the drilling machinery and equipment, it is estimated an annual saving of around $1,500,000 will accrue to operators, and this particular item in the standardization program represents only five per cent of the cost of equipment necessary to start the well.

The actual financial saving is probably the smallest part of the gain. The chief aim of the standardization work is to achieve interchangeability of parts in drilling and producing equipment as far as this is compatible with good manufacturing practice. Thus the oil company is more certain of being able to secure needed parts quickly for field work regardless as to what particular company supply house is nearest to hand. Shutdowns are costly under all circumstances. The oil company also will not be forced to carry as large stocks in its own field supplies. Not only will the lines it must carry be fewer, but it can also depend to a greater extent than previously in getting what is necessary from the oil company supply house.

For the manufacturer and supply company, now spending considerable time and money to help achieve standardization, there will be eventual savings in making a simpler line of products, in not being called on to turn out a special line for some favored customer, and in having to carry a smaller investment in stocks throughout the fields, although the latter will be the last in attainment.

There are other indirect benefits of real tangible value in the bringing together of operators and manufacturers from all the oil producing districts of the country to study their common problem of drilling and producing oil from ever increasing depths as efficiently and economically as possible. Helpfulness in the exchange of ideas between the man who makes the equipment and the

man who is called upon to use it have already resulted.

Start in Small Way

STARTED five years ago by the Tulsa Purchasing Agents Association as applied only to rig irons, the standardization program was quickly taken up in turn by the Mid-Continent Oil & Gas Association and the American Petroleum Institute until now it includes practically all lines of equipment used in drilling, pumping and storing oil in the fields. The work is in the hands of ten committees, who work independently, though of course the work of some must be correlated for certain items which overlap the classification by committees.

Chairman of the general committee, which is composed of the chairmen of the ten committees, is J. Edgar Pew, vice-president of the Sun Oil Co., Dallas, who with Capt. J. F. Lucey, of the Lucey Petroleum Corp., also of Dallas, are looked upon as the fathers of the standardization move among the oil men. The executive work is done through C. A. Young, formerly manager of a concern making rotary drilling equipment, now on the American Petroleum Institute staff to carry on this standardization work exclusively. Each committee has district sub-committees of oil field operators by producing districts, and sub-committee of manufacturers of the particular oil field equipment under consideration.

The general classification of items under consideration at least for standardization are beltings, boilers, cable drilling tool joints, standard rigs and derricks, pipe and casing, rig irons, rotary drilling equipment, wire rope and manila cordage, pumping equipment and engines, and steel storage tanks.

Some Programs Completed

SOME of this work has progressed to the point equipment is being turned out to standard dimensions, stamped with the A. P. I. monogram which is licensed to operators by the Institute as they are prepared to turn out the standardized equipment. As the work approaches this point, a special gage committee superintends securing the necessary master gages and putting the working gages in the hands of the manufacturers. Other items of equipment are in various stages of progress.

Casing, for example, of which item some 30,000,000 feet of new equipment are bought annually for use in Oklahoma and Kansas alone, is being turned out to meet standard dimensions as to size and thread. Combinations of strings of various sizes have been figured out to meet depths drilled to in various fields and unnecessary sizes have been eliminated. These companies are now licensed to make standard casing, and many are now delivering orders: National Tube Co., Pittsburgh; Youngstown Sheet & Tube Co., Youngstown; Standard Seamless Tube Co., Ambridge, Pa.; South Chester Tube Co., South Chester, Pa.; Wheeling Steel Corp., Wheeling, W. Va.; Reading Iron Co., Reading Pa.; Jones & Laughlin Steel Corp., Pittsburgh; Stewart & Lloyds, Ltd., Glasgow, Scotland; Spang-Chalfant & Co., Pittsburgh; Pittsburgh Steel Products Co., Pittsburgh; British Mannesmann Tube Co., London; Scottish Tube Co., Ltd. Glasgow, Scotland. The Harrisburg Pipe & Pipe Bending Co., Harrisburg, Pa., and the O. A. Smith Corp., Milwaukee, have been licensed to use the A. P. I. monogram on couplings.

Some 50 manufacturing concerns, supply companies and oil companies have been licensed to make cable drilling tool joints of the 11 sizes adopted as standard.

Seven companies have been licensed to use the A. P. I. monogram on rig irons, which include such items as crown and casing pulleys, pitman stirrups, saddles, set collars, sprocket rims, shafts and cranks and wrist pins: Oil Well Supply Co., Pittsburgh; Oklahoma Iron Works, Tulsa; National Supply Co., Toledo; Parkersburg Rig & Reel Co., Parkersburg, W. Va.; Lucey Manufacturing Corp., Chattanooga, Tenn.; Western Iron & Foundry Co., Wichita, Kans., and the United Iron Works, Kansas City.

Interchangeability is Aim

THE standardization program as carried out so far has been mostly limited to setting standard dimensions which would provide for the interchangeability of the parts of one manufacturer with similar parts of another maker. There has been but limited attempt to broaden the standardization work to include the chemical or physical nature of the material going into the equipment. If this latter feature were to be included there is no limit to the extent to which the standardization work could be carried. Leading manufacturers pretty generally agree that the setting of such standards is outside the province of this work.

The established manufacturing plants have achieved their positions by constant engineering and research work to improve the design of their products and the nature of the raw materials used. They are in a better position to pass on what materials should go into their products to give maximum service than the users themselves. Changes are made as new developments come in the research field in iron and steel, more quickly than could be done by a standardization committee. Competition will insure the oil field operator getting the best equipment obtainable from the manufacturers who remain in the field for any length of time.

No Limit Upon Skill

THE licensing of any manufacturer to use the A. P. I. monogram and make any particular piece of standardized equipment does not preclude that manufacturer, of course, from making other designs of that same item. Some manufacturers at least will continue to supply equipment of their own design and manufacture, which they may regard as superior to the standardized product, for certain uses.

While the fear is expressed in some quarters that the adoption of standardized oil field equipment will put all manufacturers, large and small on the same basis as regards quality of product, and remove the opportunity for inventive genius and initiative, this is not well founded as far as the present scope of the standardization program is concerned. It is likely, that there will be something like a uniform level reached among manufacturers for a line of products of an accepted standard and simple in nature, but the opportunity for research work and invention to develop new machinery and tools generally and to improve those already in use and even standardized is going to continue.

There are some lines of equipment, as pumps and engines, for example, where it is not likely standardization can be carried very far. Each piece of this equipment, as turned out by each manufacturer, is the result of years and years of invention and development. To attempt to change even minor parts for the sake of securing interchangeability, might affect the efficient working of the entire piece of equipment.

Stocking Standardized Casing in Okla.

COLORADO SPRINGS, June 18.—The first actual field use of American Petroleum Institute standardized casing or of any of the Institute's standardized material in Oklahoma is announced by the Carter Oil Co., which has ordered large quantities of the new A. P. I. casing and now has about 150,000 feet of it on hand at its Tulsa warehouse.

This company will use the new casing in its No. 1 Alice West in the southeast corner of the southwest quarter of Sec. 30-17-5, Payne county, and has the pipe on the ground now ready to run. The well is being drilled with rotary tools and is now slightly more than 1000 feet deep. The casing is the ten and three-quarters inch outside diameter, 40½ pound, and the eight and five-eighths inch outside diameter, 36 pound, both seamless. The ten-inch probably will be set at about 1600 feet. The new A. P. I. casing now being stocked by the Carter was purchased from the National Tube Co.

The refiner who installs a cracking process limited to light charging stocks is always in the frying pan or in the fire

To buy his charging stock is proving to be a costly procedure due to the increasing demand for these fractions, and to install additional equipment in order to manufacture it increases his investment and his overhead and decreases his profit

The refiner who installs the Dubbs Process charges the cheapest oil available to his cracking plant and obtains the highest yield and the greatest profit

Universal Oil Products Company
Owners of the Dubbs Process
310 South Michigan Ave
Chicago, Illinois

Committee Seeks Uniformity In Gaging Methods

By C. A. Young
Standardization Director, American Petroleum Institute

SINCE the organization of the American Petroleum Institute, a little over six years ago, the question of standardization of oil field equipment has been under consideration, resulting in the appointment of ten national committees composed of representatives from all the oil producing districts in the United States and the various manufacturing interests. The primary function of these committees is to establish standards and specifications that will eliminate waste and provide for the introduction of more economical methods, without interfering with private initiative, or the progress of invention.

The work, to date, has ben productive of far-reaching results. Means have been provided for research and exchange of opinions on the various subjects under consideration. The oil operators and manufacturers of equipment are meeting together and discussing their common problems. Concessions are being made by both, to produce sound specifications. Definite results have been achieved. Standard sizes and specifications on casing have been adopted and are being introduced, drill pipe and tubing standards will soon be available in final form; cable drilling tool joints have been standardized and the master gages practically completed; rig iron standards have been adopted.

One of the most important functions of the various Standardization Committees is the formulation of standards on threaded connections and the establishment of definite sizes for gages, as well as gaging methods. In addition to the specifications on casing, drill pipe, tubing and cable drilling tool joints, standards are being established on sucker rod threads, fishtail bit shanks, grief stem and swivel connections, and tests are now being conducted on the form of thread for rotary tool joints. The threaded connections on working barrels are also under consideration.

Committee Personnel

THE standards on threaded connections just mentioned are being formulated by different committees. In order that uniform types of gages and gaging methods might be established on products similar in character, a special Correlating Committee on Gages and Gaging Practice has been appointed, as follows:

A. B. Steen, chief engineer, The Texas Co., Houston, chairman; H. W. Fletcher, chief engineer, Hughes Tool Co., Houston, secretary; H. W. Bearce, secretary, Nat'l Screw Thread Commission, Washington; T. D. Davies, National Tube Co., Pittsburgh; C. T. Mapes, Oil Well Supply Co., Pittsburgh; Paul M. Mueller, Pratt & Whitney, Hartford, Conn.; Hollis P. Porter, Gypsy Oil Co., Tulsa; C. C. Scharpenberg, Standard Oil Co. of Calif., Bakersfield. This committee is composed of representatives from the various standardization committees, as well as from the Bureau of Standards, and a gage manufacturer.

The threads on tubular goods are essentially alike; it necessarily follows that uniform types of gages and gaging methods should be followed as far as practicable. The threaded connections on drilling tools, such as cable tools, fishtail bits, swivel connections, tool joints, etc., are essentially alike. It also follows that uniform types of gages and gaging methods should be established here, so far as it is practicable to do so.

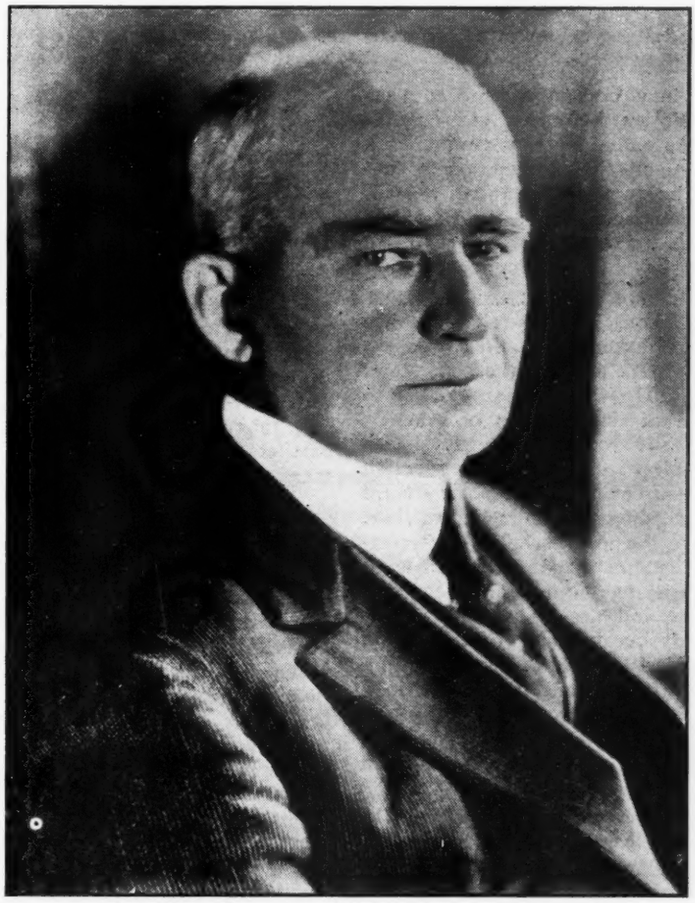
The function of this gage committee is to review the gage specifications, submitted by the various committees, for the purpose of establishing such uniformity. For example, the Pratt & Whitney Co. (on cable drilling tool joint gages) has developed a certain type of gage, which permits the correction of worn gages, or of errors in manufacture, by the application of new fitting plates to the gage, which are then ground to size.

This same principle has been used in the manufacture of gages for A. P. I. casing. It is important that such improvements be utilized wherever possible, on all gages relating to A. P. I. standards on threads. The creation of the A. P. I. Correlating Committee on Gages and Gaging Practice affords a definite means for reviewing the gage specifications from the various committees, so that every possible advantage may be gained as the work proceeds.

Carl A. Young,
Director, American Petroleum Institute Division of Standardization

Oil Industry's Standardization Complies With General Trend

By J. Edgar Pew
Sun Oil Co.
Chairman, Committee of Board of Directors of A. P. I. on Standardization.



J. Edgar Pew, Vice-president, Sun Oil Co., Chairman, Committee of Board of Directors, American Petroleum Institute on Standardization, Chairman, Committee on Standardization of Tubular Goods.

THE work of the standardization committees on oil field equipment appointed by the board of directors of the American Petroleum Institute is slowly but surely making progress. A review of the special standardization bulletin issued by the Institute, No. 51, September 4, 1925, as a result of the Dallas conference last June, and Bulletin No. 27, April 12, 1926, containing the reports presented at Los Angeles clearly indicates the progress being made by the oil industry in this very important work.

Standardization is a necessity in the oil business if we are to keep our place with other interrelated and competitive industries. The American Petroleum Institute, in its standardization division, is merely attempting to keep abreast with similar work sponsored by other engineering and industrial bodies, as exemplified by the American Society of Mechanical Engineers, Society of Automotive Engineers, the American Mining Congress, the Division of Simplified Practice, initiated by Mr. Herbert Hoover, our very competent secretary of commerce.

These various standardization committees are proceeding along the following general lines:

(1.) Analysis and research.
(2.) Simplification and elimination of unnecessary sizes.
(3.) Formulation of such standards as they believe will suitably answer the needs of the oil industry.
(4.) Some of the proposed standards are dimensional only; others contain the limitations on chemical and physical properties as well as dimensional sizes.
(5.) Representation on the committees from each oil producing district and manufacturers.

To compute the value of this work is difficult. The various committees have made such analyses of the estimated savings on individual items, which run from one million to five million dollars per annum. The largest savings will come from bringing the user and the manufacturer together and the elimination of guess work.

Speaking of the standardization of oil country tubular goods, of which committee I am the chairman, there were many problems confronting the committee. First, clearances; better clearances are necessary in order to provide proper working room for the tools Second, standard size for threads. Third, chemical and physical properties of materials and the necessary tests therefor. There have been innumerable cases of casing parting in the well, brought about by improper fit between the pipe and the coupling. The user had no assurance that pipe purchased from one manufacturer would be interchangeable with that purchased from another, although commonly understood to be of the same thread and taper. We have set up tables on master gages so that each manufacturer can work from an identical gage.

Too much credit cannot be given to the splendid voluntary co-operation being rendered by the various district committees of users, as well as the manufacturing interests. Space does not permit me to comment in detail on the research reports that have already been submitted, which indicate the time, care and money that have been expended in endeavoring to arrive at proper and equitable standards. It is a safe statement to make that several hundred thousand dollars in time, travelling expenses etc., have been spent by the various committees to date—all of which is a voluntary contribution from all interests.

The leadership of our country throughout the world in the mechanical industries is well known. We occupy a similar position in the oil business, from the standpoint of drilling methods and equipment, as well as refining and distribution. This leadership is primarily based upon mass production, and mass production can only be obtained through carefully worked out standardization. To maintain that leadership is our duty. We can devote ourselves to this duty content in the knowledge that efforts so expended are investments on which handsome dividend will be paid, in leadership, prestige and ectual monetary savings, to manufacturers and users alike.

Supply Stores May Carry Larger Stocks While Change is Effected

By Lawrence E. Smith
N. P. N. Staff Writer

TO all outward appearances, the supply store of the immediate future will be the same as it has been in the past. The store manager will note the difference presently, when a somewhat greater stock must be carried and this condition will continue for several years, as long as it requires to get the oil producing industry converted to the basis of A. P. I. standard equipment.

There is so much equipment in use whose life will continue for many years, as a steam engine, for example, which almost never wears out entirely, for which replacement parts of the original design must be carried in stock, that it means to the store that a larger inventory will be on the shelves and in the warerooms, when the A. P. I. material is made available to anyone who wants it.

So, except for the greater amount of money the owner of the store ties up in stocks, be that owner also the manufacturer of much of the equipment stocked or the jobber representing manufacturers, the store will look the same. There will be no sudden discarding of present stocks and replacing with the new standards. It would not be possible to do so, for the demand for the non-standard types will continue and in addition, the manufacturers require time to distribute present stocks to customers who can use them just as well as not.

Supply company salesmen will continue to tour the fields and to send in their handsomely engraved cards to purchasing agents and executives, presenting, as they have in the past, the irrefutable proofs of the superiority of their goods. This, regardless of the introduction of the A. P. I. standards, for standardization means merely interchangeability. The argument of the salesmen of the new type equipment will be that the customer has the assurance that, if he requires replacement parts, is pressed for time and can get the part made by some other manufacturer who also supplies A. P. I. standard goods, he will find that it will fit.

Limited to Dimensions

FOR the emphasis in this work has been placed on dimensions. There has been no attempt to invade the realm of manufacturing skill, to change design. There has been no desire to put standardized valves on a hitherto valveless gas engine nor to prescribe standard bushings for tongs when the manufacturer's big talking point is that no bushings are required for his tongs.

But it may presently come to pass that foundation bolts for gas engines will be the same for any engine of a given size and that horsepower of engines will mean the same thing, regardless of manufacture. (In the past, the variation in horsepower of engines rated the same, has been as high as 50 per cent.)

Casting about for a parallel instance of standardization where the work has been completed, we note the shoe store. Before Mr. Hoover began to look into the matter of simplification of practice, a size 11 shoe on a double E last—a fair example of drilling and production footwear — frequently meant different things, according to who made the shoe. Now, since the makers held their meetings and standardized on their lasts, the man who has been wearing Squeakeasy shoes and decides to buy a pair of the Easysqueak brand, can order the same size with perfect assurance that they will fit. Yet, all shoe stores look just as they did before the uniformity was achieved and no manufacturer's claims of superior quality have been vitiated.

So, in appearance, nothing will be altered in the supply store. But the results of the monumental work that has already been achieved in part will be reflected in the finances of the manufacturer and the oil producer.

Greatest Benefit to Producers

THE benefits to the manufacturer and to the supply company will, at the outset, be negative. This is one instance where they have done something out of the goodness of their hearts. They will be subjected to heavy expense in converting their plants to the new basis of operation and in tying up capital in increased stocks, to take care of both the new and the old equipment.

The benefit to the producer is incalculable. That part which comes from carrying smaller stocks is definite and ascertainable, but the part which represents time saved by having at hand the replacement part he needs, is not subject to computation. He gains also the advantage of being able to work in much material that once he discarded, belt ends, to cite a common example.

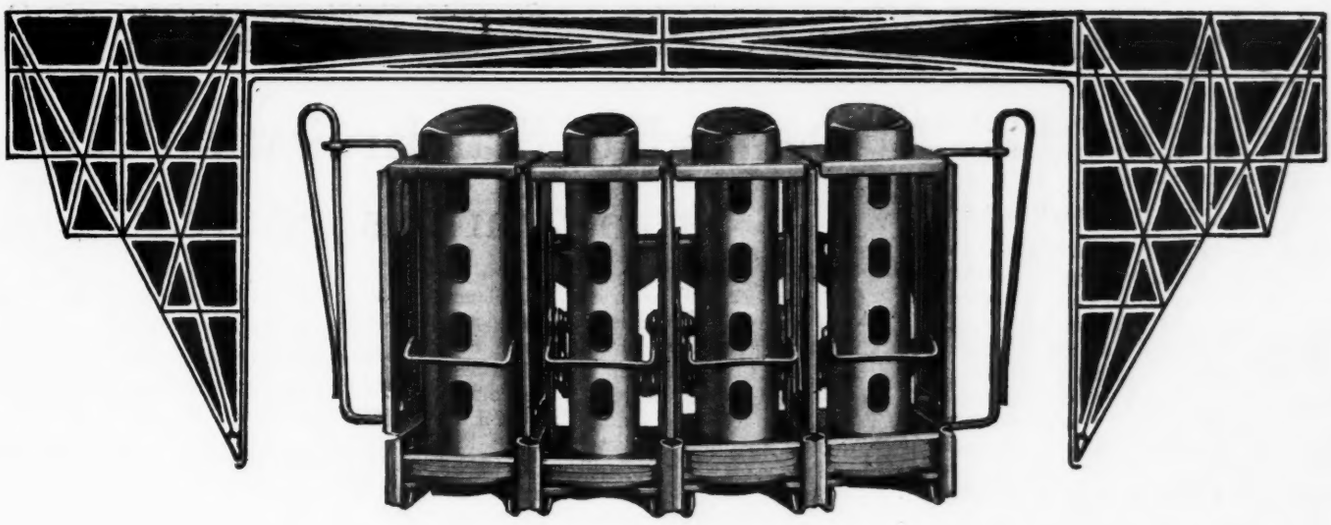
The tendency of the producer to carry smaller stocks has been noted for several years, just as has been his tendency to let the contractor drill his wells. A notable example in one of the Eastern fields is that of a large company which operated 15 or more strings of tools. Its warehouse was stocked with everything required to keep the tools going, including a large stock of fishing tools, and was one of the largest and best warehouses in the country. Effective the first of this year, the company got out of the drilling business, disposed of its stocks to contractors except that required in production. This same company, with the standardization of production equipment, such as sucker rods, working barrels, tubing, gas engines, will carry even smaller stocks because of the replacement advantages it will have.

Benefits the Wildcatter

CONSIDER the wildcat, far away from supply bases and shops and the time it will be able to save when equipment fails. The incident of the first Fort Norman test drilled by the Imperial Oil Co., Ltd., up near the Arctic Circle in Canada, is an extreme example, but is illstrative. When the company decided to put down this test, it called upon one of the large supply companies to ship everything that would be required and to make certain that there was included a replacement part for everything that might fail.

To break a rig iron with no other such part available, would mean months of delay, for the location was 1500 miles from rail head, much farther than that from other drilling wells. But, though there might be equipment on the ground much nearer, not in use, there would have been no assurance that it was of the same make and hence that it would replace a broken part. With the rig irons now standardized, drillers of remote tests frequently will be able to halve the distance to obtain something that has failed and will save much time and money.

There is a benefit which has not heretofore been mentioned in the discussions of standardization, and, while the program was gotten up with no such thing in mind, it will come as a blessing to the oil industry as well as to the supply company. That the promulgation of the A. P. I. standards and the insistence of the producer on equipment bearing that stamp — wherever the equipment falls



It costs you nothing for your men *to give quicker, cleaner change!*

SELL your men "Universal" Coin Changers on the same practical plan used by street railway and bus companies—so much a week till paid for.

Wherever tried, "Universal" Changers are liked—*by the men, as well as by your customers!* You see, customers hate "pants pocket" change—it's greasy and soils hands, pockets and (worse than anything else) women's pocketbooks! Give 'em reasonably clean change, by our proven-practical "Universal" plan, and you get folks coming back to you. That's why gallonage steadily increases—that's why your men are so willing to use their own money for "Universal" Coin Changers!

The "Universal" Changer is made of rust-proof material, strongly constructed, and so durable that you need not be troubled by replacement as with cheaper makes of like construction. The barrels are interchangeable and of greater capacity than any other make. A change in gasoline price, necessitating a different multiple of coins, can be instantly arranged by changing the plates, so that the desired number of coins can be ejected from each barrel. The beveled ejectors compensate for varying thickness of coins. The coin barrels may be had in any desired number or combination.

The standard "Universal" combination is for quarters, dimes, nickels and pennies. The full retail price, including belt and individual carton and direction sheet, is only $5.90; standard discounts to quantity buyers, marketing associations and oil companies.

For details of how the "Universal" has helped increase gallonage at stations of all sizes, address Dept. 14.

JOHNSON FARE BOX CO.
4619 Ravenswood Avenue
CHICAGO

JOHNSON FARE BOX CO., Dept. 14
4619 Ravenswood Ave.
Chicago, Illinois

Please tell me how the "Universal" Coin Changer will increase gallonage—also quote quantity prices.

Name .....

Company .....

Address .....

within the category of standardized goods—will tend to eliminate the "gyp" dealer seems evident.

Handicap the "Gyp" Dealer

IN nearly every field that is quickly developed under highly competitive conditions there comes upon the scene the individual who calls himself a supply dealer. Frequently this is his "first appearance on any stage"; generally, he has no inspiring hope of outlasting this boom as a supply man. He buys wherever he can, from manufacturers whose desire to be represented in this field in a hurry gets the better of their credit sagacity, and from small shops in the territory, whose products conform to no particular standard and certainly are not made primarily to be interchangeable with those of other manufacturers. This is no reflection upon the multitude of small shops which have played a real part in the oil industry, for those that have occupied a worthwhile position distribute direct and not through the agency of the hock shop type of dealer.

Having somehow obtained a stock of equipment, including second hand pipe that should be condemned, the "gyp" dealer starts underselling every established house in the field. He harvests while the excitement is on, then fades away from view, leaving only his creditors to mourn his passing. The reputable dealer remains in the field long after the large scale business has gone, frequently running the store on a volume that does no more than break even, if that.

The "gyp" will find more odds against him when operators demand standardized, or interchangeable equipment and tools with standardized joints. Permit to use the A. P. I. emblem will not be issued carelessly; integrity and stability will have to be part of the record of the company that uses it, and such companies will use care to see that their product is handled by reliable dealers. Small manufacturers who will comply with the terms set up will have no difficulty in getting permits to use the A. P. I. emblem on specified goods. Those who go on threading pins that fit only boxes they have threaded are likely to find themselves fading from sight as the use of standardized equipment attains greater and greater scope.

The distribution of the standardized equipment will call for no changes at present discernible except for the aforementioned greater outlay of cash in carrying stocks and, on occasion, providing for greater warehouse space. It will call for just as many supply stores as in the past, for the manufacturer and the dealer will be just as eager to cover the territory adequately and they will have just as many talking points for their equipment, with the additional one of its being interchangeable with standardized goods of other makes.

Demand for Standardization Came From Various Sources

SO far as the American Petroleum Institute is concerned, the language of H. J. Lockhart, Parkersburg Rig & Reel Co., national vice-chairman of the general committee, in the course of a short talk last January at the Los Angeles Institute meeting indicates the beginning of the standardization work.

"..... it was but six years ago when the first attempt was made by the American Petroleum Institute to standardize some of the most important articles used in the drilling and producing equipment in this country.

"The first session there were three men who spent the entire day discussing this in Washington, D. C. That was the only encouragement that was noticeable at the first meeting. After the adjournment of the first meeting, these three men received many letters stating it was what the industry needed and pledging their support to the standardization movement."

That was wholly an informal discussion and the first meeting of a definite nature, called to talk standardization, was held in Tulsa Nov. 28, 1921, presided over by J. B. Stockton, purchasing agent for the Producers & Refiners Corp., acting as an official of the Tulsa Purchasing Agents Association. Representatives of the purchasing agents group, of the Bureau of Mines, of the Bureau of Standards, of the American Petroleum Institute and of rig iron manufacturers, were present and the discussion was wholly upon rig iron. In December following, Mr. Stockton presented the report of the Tulsa meeting and its modest program to the American Petroleum Institute meeting in Chicago and suggested that the movement be enlarged to take in such items as tool joints and threads on casing, and be conducted on a national scale. Throughout 1922, the plan gained impetus and broadened in scope. In the December, 1922, meeting of the A. P. I. in St. Louis, at which time the whole campaign was formally taken over by the Institute, the trend of events through the past year was indicated in the formal resolution submitted to and adopted by Institute directors.

Take Up Casing and Drill Pipe

THIS resolution accredited with activity during 1922, the standardization committee of the Mid-Continent Oil & Gas Association. Edgar Pew, Vice president Sun Oil Co., chairman of committee. This group had studied and conferred on drill pipe and casing. A meeting had been held in Tulsa on Nov. 14, at which tentative agreement had been reached on standard string for Mid-Continent operations. Later was to come exhaustive research and field tests on pipe.

The same resolution showed that the late Grant Hubley of the Oil Well Supply Co., had served as chairman of a voluntary committee of manufacturers, under the auspices of the A. P. I., called into being to study cable tools. A third committee, with H. J. Lockhart as chairman, was working on rig irons. This was a voluntary committee of manufacturers, called under the auspices of the A. P. I. and co-operating with the Tulsa Purchasing Agents Association. Still a fourth committee was studying rotary tool joints. S. A. Guiberson, Jr., was chairman of this, with Capt. J. F. Lucey then, as now, a commanding figure in the enterprise.

Prior to the adoption of the resolution at the St. Louis meeting, when appointment of committees was authorized, O. V. Borden, then secretary of the Tulsa Purchasing Agents Association, made an effective plea for regarding the standardization program as of paramount importance. Mr. Borden was prominent in the early stages of the purchasing agents request for standardization of rig irons and has throughout worked faithfully as a committeeman in the A. P. I. program.

The late Louis C. Sands, of the Oil Well Supply Co., presided over a meeting on June 21, 1922, when tool joint threads constituted the subject. This may be regarded, so far as date is concerned, as the beginnning of the mid-year conference on standardization, this year just concluded at Colorado Springs.

In 1923, the Institute directors named J. Edgar Pew national chairman, in which capacity he has served ever since, and the appointment of committees was taken up on a large scale. The subsequent history is more familiar to the oil man, for the work had by this time come to be regarded in its true light.

Fullest support has been given by various associations to the work. The Mid-Continent Oil & Gas Association, Natural Gas Association of America, Rocky Mountain Oil & Gas Association and Chamber of Mines & Oil of California, have co-operated in every manner of the Institute has desired.

Oil Industry Benefits From Standardization Work

By W. S. Farish
Humble Oil & Refining Co.

President, American Petroleum Institute.

AN ancient philosopher reached the conclusion that the thumb controls the destiny of a man's soul. Without it, the philosopher reasoned, the human family would be helpless in its activities scarcely removed from those of the animal kingdom.

The human hand and arm were found to have little use without the important influence of the thumb, a fact recognized today by those who have given thought to it. The philosopher, however, extended his thought further. He concluded the thumb is so necessary a part of the body that, were it not for it in the beginning, the human family would lack mental and physical control.

What the thumb means to mankind, whether one subscribes to the philosopher's detailed hypothesis or not, the standardization movement may prove in it relation to industry. This is especially true of such an industry as ours, where the need has existed for the correlation and coordination of work in the interest of maximum operating efficiency.

The great improvements already apparent in oil well drilling and production equipment are bound to be reflected in the industrial future of petroleum, their influence gradually widening until the business as a whole shall benefit through the medium of this figurative "thumb."

Hundreds of busy men have taken many days of valuable time away from their normal duties to develop the best thought that could be applied to standardization. These have included executives of operating companies and manufacturers; also the very best engineers and technical and practical men available. All have given unstintedly of their time and effort.

It has been very gratifying to the board of directors of the American Petroleum Institute and to me to see the whole hearted cooperation of the industry in the work of standardization. The work will continue to go forward, the industry may rest assured, as fast as unfinished phases can be developed and in line with future requirements.

W. S. Farish, President, Humble Oil & Refining Co., President, American Petroleum Institute.

Many Cable Tool Joints Reduced to Orderly Few

By Thomas Fleming, Jr.
Oil Well Supply Co.

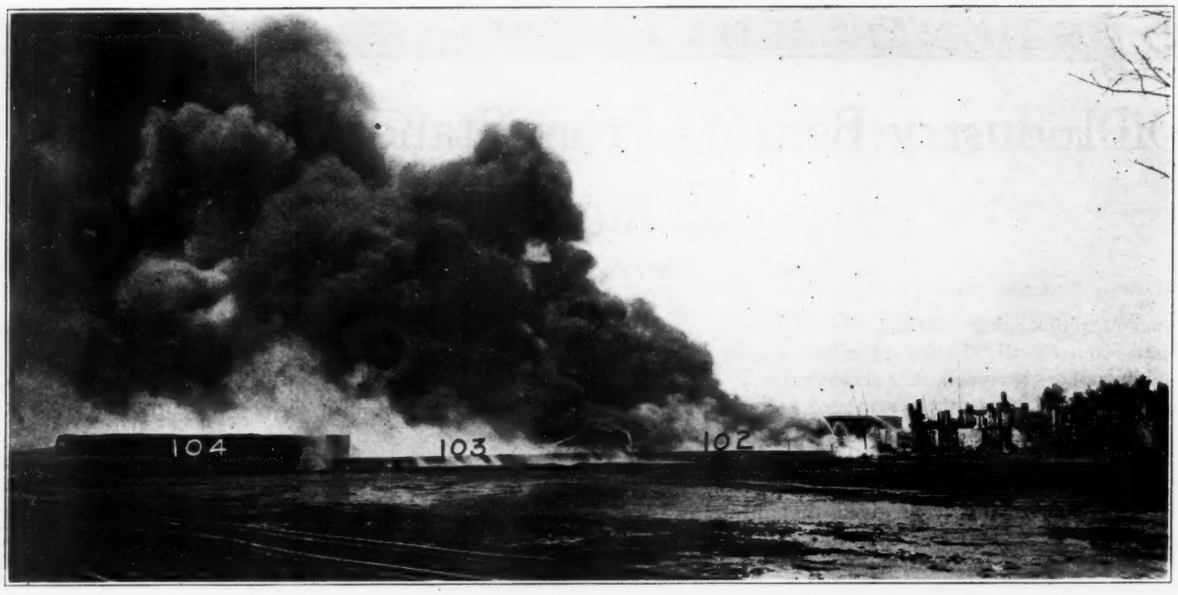
National Chairman, Special Committee on Standardization of Cable Drilling Tool Joints.

THE cable tool joint, like many other devices used in the oil fields, was developed in the field shops with very little scientific knowledge or experience. Each shop had its own standard, and many of the drillers had their own ideas as to what constituted a good joint. Even where there was a standard joint, variations from it crept in. Very often one joint was made up from another joint without the use of templates, so that even joints of the same manufacturer in some instances would not interchange.

In recent years the most popular joint in the oil fields has been the I. & H. Joint, but there has been no guarantee that the I. & H. Joints furnished by different manufacturers would interchange. These conditions naturally caused a large wastage in the use of drilling equipment in the fields, and also added considerably to the expense of the manufacturers.

The Oil Well Supply Co., which owns the original I. & H. templates, has manufactured all of its joints according to this standard unless otherwise specified, but many orders have been received from customers specifying other types of joints and some of the larger customers have had their own templates on file for making their special joints. The result has been that this company has been making over 350 different joints which the standardization will reduce to eleven.

It can be readily seen that with the conditions as above described, this was one of the first items of standardization to be considered by the American Petroleum Institute. The committee for standardizing cable tool joints was organized in 1922 by the Institute. This committee found that the I. & H. Joint was more generally used than any other joint and that the form of thread also very closely approached the U. S. stand-



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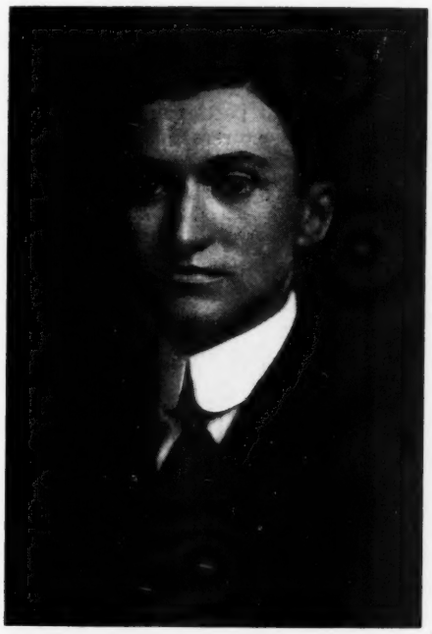


Thomas Fleming, Jr., Vice-president, Oil Well Supply Co., Chairman, Committee on Standardization of Cable Drilling Tool Joints.

ard 7-thread flat, and that the slight modification to this U. S. standard could be accomplished without seriously affecting the interchange with existing I. & H. Joints.

Obtaining Gauges Big Task

THE adoption of a standard joint based on scientific principles was of course very important in connection with the manufacture of master gauges and templates. The report of this committee was submitted to the American Petroleum Institute at the annual meeting October 20, 1924; the dimensional standards were approved and adopted by the Institute; and the committee was directed to proceed with the development of the necessary master gauges and templates. Pratt & Whitney, gauge manufacturers, were employed by the committee to handle the gauge situation. It developed that no large precision master gauges of taper joints had ever been manufactured, and it has taken Pratt & Whitney in cooperation with the U. S. Bureau of Standards the last eighteen months to develop the master gauges and control gauges for this work. The manufacture of these gauges has nearly been completed and most of the reference gauges have been checked up, calibrated and deposited with the U. S. Bureau of Standards at Washington and with the district custodians. Gauges can be checked up with the reference gauges in the hands of the district custodians for a nominal sum.

The committee expects in a few months to see all manufacturers of Cable Tool Joints using the new gauges to manufacture Cable Tool Joints, in accordance with the American Petroleum Institute standards.

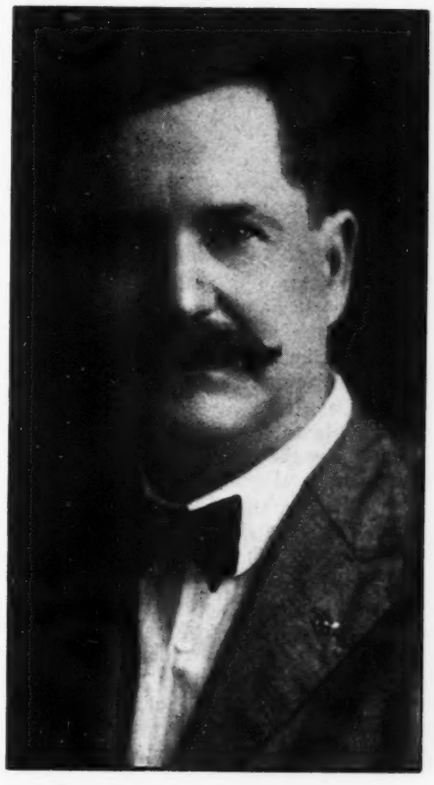
Greater Uniformity Boiler Dimensions Hoped For

By A. B. Steen
Chief Engineer, Producing Department, The Texas Co.
National Chairman, Committee on Oil Field Boiler Standardization.

THE article in the May 19, 1926 issue of National Petroleum News leaves little to say on the status of standardization of locomotive or fire box type of boilers. However, since the Los Angeles meeting of the boiler committee we have, by consent of those who asked for it, eliminated the 150 pounds pressure on the 65 and 85 horse power boilers, thus giving us one class only as far as pressures are concerned.

The 30 and 50 h.p. boilers are to be built for 150 pounds and the 65 and 85 h.p. for 175 pound working pressure.

Wonderful co-operation has been given by the manufacturers, but the committee representing users have not so far succeeded in getting all they desire in the way of specific dimensions. It is hoped in the near future to have such dimensions fixed, so that boilers of like size made by the several manufacturers can be assembled in a station and present a symmetrical appearance; and be connected up by fittings and lengths of pipe and nipples which can be made standard.



A. B. Steen, Chief Engineer, Producing Division, The Texas Co., Chairman, Committee on Standardization of Oil Field Boilers.

It is often convenient and sometimes necessary, in order to get things going quickly, to assemble boilers of different types. This now means setting up the boilers, measuring for and cutting and threading the pipe for the several connections. If the dome were located the same on all boilers, the distance from the bottom of fire box to top of dome the same, and feed pipe connections all fixed at the same point, the necessary pipes, nipples and connections could be kept in stock ready for assembly.

THE California American Petroleum Institute sub-committee on standardization has worked out complete proposed specifications for horizontal tubular boilers for oil field country use covering the following sizes: 85 h.p., 120 h.p., 180 h.p., all for 150 pounds working pressure.

The method of determining horse power is the same as that followed for the locomotive, or fire box type, boilers. These proposed specifications were distributed to all of the sub-committee in the expectation of taking final action at the Colorado Springs meeting.

While standardization is important in bringing about economy and convenience in the handling and assembling of boilers, the adoption of a code is considered by many as of more importance, in that it insures greater safety in the use of boilers.

The America Society of Mechanical Engineers boiler code is a report containing standard specifications for the construction, equipment and use of steam boilers, and embodying the collective knowledge of the world's leading experts. Boilers manufactured as specified in this code have a factor of safety of five, that is; it would require a pressure five times as great as the working pressure allowed to burst or rupture the boiler in any of its parts.

WHILE having only a distant relation to standardization of boilers, except in that it affects their capacity, it may be well to suggest that greater economy could be secured by the use of more economical engines and pumps, particularly in rotary drilling. A power pump direct connected to a steam engine operating with cut-off valves should reduce the consumption of steam to about 25 per cent of that now used, and the drilling engine operated with a cut-off instead of taking steam practically the full stroke of piston should save about 20 per cent.

Manufacturers Have Assumed Big Task in Changing Equipment

By E. E. Greve
Oil Well Supply Co.

Chairman, Manufacturers' Sub-committee on Standardization of Rotary Drilling Equipment.

COMPLYING with your recent request, I am pleased to submit a few remarks for the purpose of enlightening anyone interested in the A. P. I. standardization work, what standardization really means to the manufacturer.

I will endeavor to refrain from using any technical terms which would have a tendency to place this article in the classification covering technical papers, and will use terms which are readily understood by everybody.

In the first place standardization to my mind is a wonderful thing if properly handled, and if all parties interested look at it in the light that it is something which should be of mutual benefit both to the manufacturer and the operator.

There is no tendency for the manufacturer to even recommend dimensions covering his product in order for him to incur a minimum expense when making changes, but rather as far as I know the engineers of the different manufacturers have discussed the problems deciding on a recommendation which from their point of view is the best for the operator when considering commercial manufacturing. If this were not the case, many devices from an engineering standpoint could be designed which would be much more efficient, but at the same time the cost would really be prohibitive.

Where possible, engineers representing manufacturing concerns have tried to adopt standards agreeing with the dimensions of articles which already have been distributed through the operating fields in large quantities in order to work as little hardship as possible on the operator who is the party to purchase repair parts; and some of the operators carry stocks of repair parts in their own warehouses.

Nevertheless, should any article, even though it has been broadly used throughout the fields, be such that it could be improved upon to a degree justifying its recommendation, then the engineers have recommended such change.

Changes Are Many

IN very few cases, and I might say speaking for my own company, there is no article which has been discussed from a standardization standpoint and which we manufacture that does not call for changes, and I believe this is true in the case of all other manufacturers of goods used in the oil and gas field. It has also been the idea of the committee recommending dimensions, which go to make interchangeability, to arrive at an agreement whereby it is unanimous with respect to the recommendation.

E. E. Greve, Chief Engineer, Oil Well Supply Co., Chairman, Manufacturers' Sub-committee on Standardization of Rotary Drilling Equipment

Standardization is really interchangeability and has nothing to do whatsoever with the analysis of the material going into the product. This being the case, manufacturers can make articles of different analyses and design but still maintain interchangeability: this does not handicap the bringing out of original ideas in general, and therefore by treating standardization as interchangeability a great deal of good can be done without impairing research work.

We now come to what might be considered the most vital point of standardization to the manufacturer, and that is the expense to which the manufacturer is forced in order to make the changes. This point I believe has not been considered by operators and people in general who are interested in standardization. Should the operator want a repair part for some article which is not A. P. I. Standard, he gets in touch with the manufacturer of this article, and orders a repair part which must fit. After standardization has been in use for some time operators will become equipped with A. P. I. Standards, and can secure repair parts from any of the different manufacturers and be assured of their interchangeability.

Duplication Necessary

WHEN a recommendation has been made and accepted by the A. P. I. it means that the manufacturer must do considerable engineering work in the drafting room in order to ascertain what must be done with the present article in order to meet the A. P. I. specifications. In practically every case this means a new set of drawings, new patterns, new foundry equipment, new tooling equipment for the machine shop, gauges, and the carrying in stock of two sizes of articles, while heretofore it has only been necessary to carry but the one article. The reason that the manufacturer must carry two articles for accomplishing the same purpose is that the manufacturer is obligated to furnish repair parts for equipment which he has sold in the past, and he must also furnish equipment and repair parts to meet the A. P. I. Standards. This carries with it the additional expense of the extra equipment, together with it the expense incurred in changing over and making the standard equipment, and the slowing up in production of the plant. Even an article such as rig irons, which in itself is practically the most simple equipment used in the oil business, involves the expenditure of many thousands of dollars to change over to the A. P. I Standards.

The filling of orders by the manufacturer must necessarily be slowed up for the reason that many orders will be received, which orders will not specify whether it is A. P. I. goods the repair parts are for or whether it is goods furnished in the past.

Producers Can Lighten Load

I HARDLY believe any one outside of the manufacturers themselves really appreciate the enormous expense in time and equipment that they have been put to in endeavoring to assist the standardization, and it therefore appears to me that the operator should and does look upon standardization as something which really is of more benefit to the operator than to the manufacturer, and consequently, will order A. P. I. Standards as far as possible rather than to specify and insist upon some special equipment.

In order to properly protect the manufacturer it seems to me that no advertising with respect to A. P. I. products, or the promoting of A. P. I. Standards should be made until at least one year after the standard has been adopted by the A. P. I. This allows the manufacturer time in which to work over into the new standard in such manner as to decrease the loss, which he must sustain.

No More New Standards and Fewer Old Ones Mean Big Progress

By J. F. Lucey
Lucey Petroleum Co.

National Chairman, Committee on Standardization of Rotary Drilling Equipment.

IN considering the advantages of standardization and what has already been accomplished, it appears to me that one of the greatest achievements is the fact that new standards have been discontinued. Heretofore every district manager of large operating companies, individual operators, or men promoted to positions of superintendents, insisted upon their own individual standards, thereby adding to the confusion already existing and also to the cost.

Since standardization has been adopted and endorsed by the American Petroleum Institute, all new standards have been discontinued and if we had not accomplished anything else but this one very great saving the work would have been worth while.

As the result of the various meetings under the auspices of the A. P. I., our operators are, for the first time, thinking along national lines instead of a localized view; they are now dealing with drilling problems along broad, national lines.

It occurred to me from the outset that it would not be possible for men of the brains and intelligence of the oil industry to meet and discuss their common problems without beneficial results, and if they had not done anything else than to exchange general views as to the difficulties met in their respective localities it was bound to give all of them a broader general idea and eventually result in cooperation and coordination—which in effect, is what standardization is.

All of this the writer saw during the War. Whenever an industry was brought together to discuss how they might best manage their industry, bringing out the maximum production along cooperative lines, marvelous results in saving through cooperative methods were brought about. All of these very constructive, cooperative methods brought about are the result of the War applied to our own industry.

Herbert Hoover constantly contends that for the United States to maintain its commercial supremacy it is necessary that we should have quantity production and wide distribution. All of this means standardization.

You ask, What has standardization accomplished to date?

I have written so much and talked so much about the advantages of standardization and the savings to be effected where standards are adopted that I hesitate to again express an opinion, and at the risk of repetition I shall recite a few of the things in my opinion, standardization has accomplished.

First: General improvement of all equipment:

(a) Closer cooperation between shop engineers and field operators.

(b) Uniform inside and outside diameters, thereby eliminating many fishing jobs.

(c) Standard gauges for all styles of equipment for the first time in the history of the business.

(d) Uniform threads insuring interchangeability.

(e) Unform tolerances.

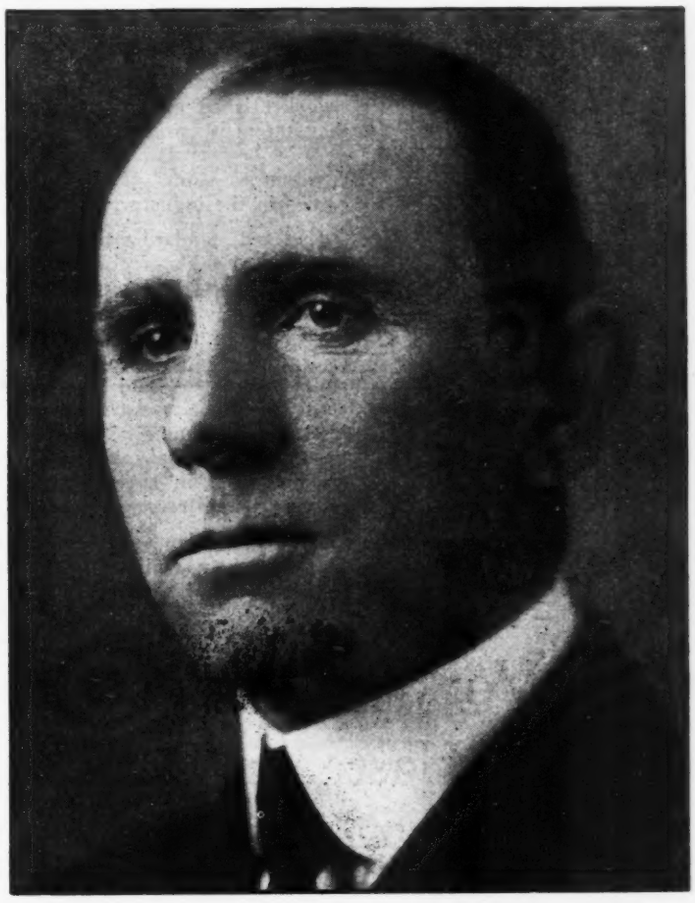
(f) A vast reduction in the number of sizes of equipment to be carried by the elimination of innumerable unnecessary sizes.

You ask for concrete examples in the field of the advantages of standardization:

First: About four years ago a certain chain manufacturer decided to change the pitch of his chain so as to comply with the standards agreed upon by chain manufacturers—this without any notice to the industry. This resulted in confusion in the field, great loss of time; complaints from operators to oil well supply houses, who could not know the cause.

Second: Certain manufacturers decided to put out a new drill stem without notice to the industry, with the same result as in the previous paragraph.

I have cited only two concrete examples as they apply to the rotary work. We have all seen rigs shut down for days and weeks at a time because such a thing as a wrist-pin did not have a uniform outside diameter. Certainly this



Capt. J. F. Lucey, President, Lucey Petroleum Co., Chairman, Committee on Standardization of Rotary Drilling Equipment.

could not in any way have interfered with design or ingenuity.

Saving on Drilling Equipment

YOU ask for an estimate on saving: It is impossible for me to make an estimate as it applies to rotary drilling equipment. I have only thought of standardization from the standpoint of the industry as a whole, and I have convinced myself that a saving of 20 per cent. in the manufacture, distribution and sale of our drilling equipment can be effected once we have adopted standardization. I am now speaking of drilling equipment manufactured by oil well supply manufacturers and it does not include casing, nor does it take into consideration the great loss of time in the field and the saving to be effected in time, which cannot be estimated. Neither does it take into consideration the saving to be made in reduced investments in the shops and the field, for in many instances it will only be necessary to carry a quarter of the stock once standards have been adopted as it is now necessary to carry under the chaotic conditions.

Cite some instances of reduction in sizes that have been made as the effect of standardization?

I think one is sufficient: A certain manufacturer was manufacturing 30 styles of fish tail bits. The gauges for about seven of these were not in perfect shape, the other 23 sizes being made in a haphazard manner using as a thread gauge bits in some instances which had actually been used.

Standardization is a poor word, but we know of no better one.

Calls for Research Work

A DIRECT result of exchange of views and ideas has brought about considerable research work. Two of our committees now are carrying on intelligent, scientific, constructive research work and in the case of our own committee, as the result of research, we have developed a very superior sprocket for rotary drilling purposes. The improvement of this sprocket over the previous sprocket is so great that I question if the statement would be accepted if it were in the records of able operating men representing some of the largest companies in the industry.

I regard standardization as the greatest achievement of the American Petroleum Institute. Its success is assured and can only be jeopardized or given a set-back by undue haste, or unless we undertake to do too much. I think we should analyze, and re-analize; vast sums must be spent before standardization can become a reality, and it is up to us to be absolutely certain that we are right in every instance before making a final recommendation.

In my opinion, standardization is a patriotic duty and an opportunity to render national service.

Harry M. Runkle, President, International Derrick and Equipment Co., Chairman, Manufacturers' Sub-committee on Standardization of Standard Rigs and Derricks.

Derrick Work Goes on Without Undue Haste or Delay

By Harry M. Runkle
President, International Derrick and Equipment Co.

Chairman, Steel Derrick Manufacturers' Sub-committee on Standardization of Standard Rigs and Derricks.

STANDARDIZATION, properly done, is a very fine accomplishment. It is in harmony with the spirit of the day and the present administration in Washington. Standardization, however, which might tend to prevent or stifle worth while accomplishments and improvements of arts and science, or undertake to inflict impractical standards where their use will involve confusion, hardship and loss, is, of course, an evil.

Much standardization work has been done by various industries in this country during the past few years. None of these efforts is more worthy of praise than that being conducted by the American Petroleum Institute. The work of this Institute is apparently proceeding with due regard to the needs of the oil and gas industries and with consideration for the companies involved in the manufacture, sale and distribution of equipment. Neither too great haste nor unnecessary procrastination has marred the deliberations so that decisions have been reached which are apparently in line to furnish the most intelligent and practical standards for application to the greatest needs.

The business of the derrick and rig manufacturers of the United States has for some years been very highly standardized. The first meeting of these manufacturers disclosed very little difference in the specifications covering towers, rigs and other equipment involved. Most of the manufacturers, however, feel that notwithstanding the adoption of standards in line with those heretofore manufactured and adopted by the American Petroleum Institute, many operators in different sections of the country will insist upon particular specifications to cover their individual requirements which may deviate from those adopted standards.

It has been the pleasure of the writer to have engaged in many conferences in various lines of industry involving standardization. The spirit and willingness with which the major number of derrick and rig manufacturers have undertaken this work surpasses any that has heretofore come under my observation. At all meetings a friendly discussion of all points involved has been freely indulged in; opinions and data have been exchanged to the end that intelligent decisions can be reached to serve the best interests of the oil industry at the least possible trouble or expense to the various manufacturers.

Standardization, to be happily accomplished, should always involve a spirit of unselfishness. The greater good of all should be placed paramount to the interests of the individual but accomplished without too great harm or sacrifice to that individual. Larger interests, therefore, should carefully consider the effect of their decisions on the individual industries in order that those decisions will not work too great hardships on the particular concerns that will be involved in their accomplishment.

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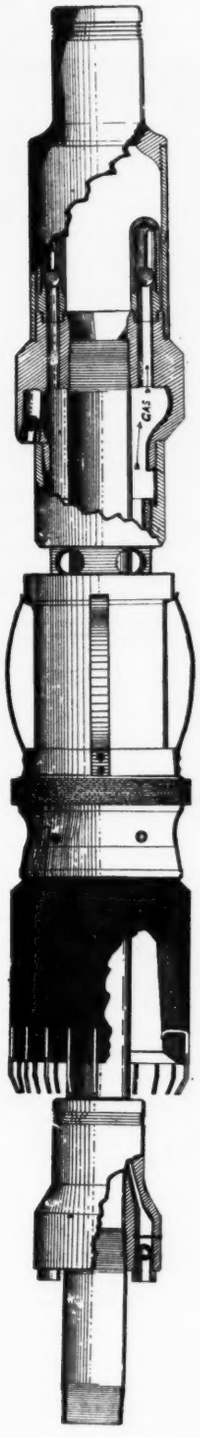

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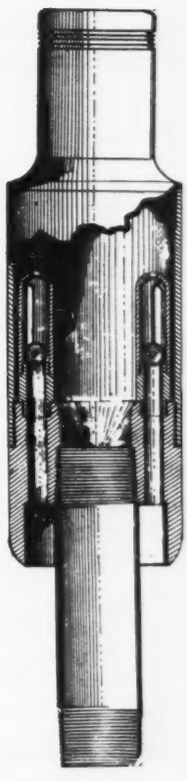

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Estimate Now Possible of Saving By Standardizing Rig Irons

By H. J. Lockhart
Parkersburg Rig & Reel Co.

National Chairman of the Special Committee on the Standardization of Rig Irons.

STANDARDIZATION, in the broad sense of the word, is nothing new. In 1917, for instance, wagon manufacturers were furnishing 2640 different parts for different designs of the vehicles they were manufacturing. By standardization the number of parts was reduced to 48. A reduction of waste by simplification of varieties has had widespread attention. The variety of car wheels has been reduced from 175 to 4; of farm implements from 1092 to 137; of leather belting from 63 to 45; of pipe fittings from 17,000 to 610; of shafting from 60 to 14; and so on down the line, all because simplification means economy to the manufacturer and therefore to the user.

A manufacturer of machinery, recently visiting a hosiery factory, saw a workman dyeing a pair of white stockings to match a dress sample sent in by a salesman. He noted particularly the many processes, the increased effort, and the monopoly of time, which should have been used in regular work, and remarked: "I am not in the hosiery business, but if that pair of stockings is sold for less than $15.00, the company doing the work is losing money." Thus, the manufacturer pays first for waste and the charge is passed along to the consumer.

What Standardization Does

STANDARDIZATION enables the buyer and seller to speak the same language.

Standardization means better quality manufacturing through concentration on good design and reduction of manufacturing expense.

Standardization lowers unit cost through mass production, makes deliveries quicker, and prices lower, at the same time stabilizing production and decreasing selling expense.

It is then not remarkable that an industry which has produced billions of dollars worth of a necessary commodity should give some attention to the standardization of the equipment used in the work, the value of the sets of rig irons used alone representing an enormous expenditure.

On Thursday, Dec. 7, 1922, A. V. Borden, the secretary and treasurer of the Purchasing Agents Association of Tulsa, Okla., addressed a group session at the Third Annual Meeting of the American Petroleum Institute, at the Statler Hotel in St. Louis, on the subject "What has been done toward uniformity of oil drilling methods and equipment."

He outlined what had been accomplished by the rig iron standardization campaign instituted by his association and concluded his remarks with an appeal for help from the American Petroleum Institute. A resolution on standardization of oil field equipment was passed by the Institute calling for the appointment of various committee heads to carry on the work, and a chairman was appointed for the voluntary committee of manufacturers to be called together for the standardization of rig iron outfits and rig iron parts.

H. J. Lockhart, Vice-president, Parkersburg Rig & Reel Co., Chairman, Committee on Standardization of Rig Irons.

Many group meetings were held between Dec. 7, 1922, and Jan. 29, 1926, and several reports were made to the Institute on progress of the movement.

Following the Dallas meeting in June 1925, the work of the special committee on the standardization of rig iron outfits and rig iron parts was completed, and the dimensional standards agreed upon were published in Bulletin No. 6 of Aug., 1925.

Rig Iron Work Completed

THE final accounting was rendered to the Institute on Jan. 29, 1926. The details of the work are in the records of the Institute, but it may be

well to go into what can be expected in the way of accrued savings when the program outlined is fully carried out by all concerned.

Rig iron outfits represent about 5 per cent of the cost of the equipment necessary to start a well. This refers, of course, to the material above ground, pipe not being considered. On this basis and using the averages of three agencies that compile records of this kind, we learn that there are approximately 12½ million dollars expended annually for rig iron outfits.

One of the statisticians who furnished some of this information went back as far as 1869, and the information given by him is most enlightening and should be interesting to everyone interested in rig irons. From 1869 to 1926, there had been approximately 350 million dollars expended for rig irons. In the early days they were light and did not represent much money, and yet on the same saving that we can accomplish today by full co-operation in the standardization movement and the adoption and use of standardized irons, there could have been saved 35 million dollars, had the early operators had the vision of those who have finally interested themselves in this work.

Estimates of Savings

SOME of the larger companies furnished the committee with information as to saving and operating expenses by the standardization of rig irons, and it was found that there is approximately a total of 12 per cent to be saved by the use of these irons, divided as follows:

8% to the rig iron user
2% to the rig iron manufacturer
2% to the steel manufacturer

and based on the wells drilled in 1925, on which rig irons were used, we find by this method that a saving of $1,469,253.00 is made to the industry, and when it is recalled that rig irons only represent about 5 per cent of the cost of material required for drilling a well, the economic value to the industry of this standardization program can be readily seen. It is estimated by some prominent operators interested in the standardization movement that the 12 per cent given above, which can be saved by the use of standardized rig irons, would be nearer 25 per cent, were the statistics accurately compiled.

The work of the committee is practically finished. Time alone will tell whether the work of the committee is justified, insofar as altered dimensions and simplified types are concerned. Time alone will tell whether the savings possible will become a fact through the cooperation of all concerned, but the committee and its chairman are doing everything possible to further the completed plan, and stand ready to aid the American Petroleum Institute in carrying on this work or any other work that it may care to send.

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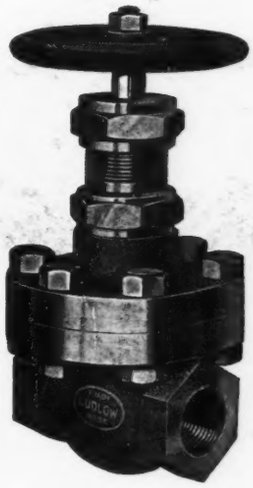

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Minneapolis: 6th St. & Hennepin Ave.

Operators in Rotary Fields Set Old Size Casing in Shallow Wells

HOUSTON, June 18.

OPERATORS in Texas rotary drilling territory are already working up their stocks of old material against the time when constant deliveries can be made on standardized casing of American Petroleum Institute specifications.

The larger companies in Texas operate in enough different types of fields that it will not be necessary for them to work out mixed string combinations of casing to use up their old size material; hence, their managements are responsible for statements to the effect that old sizes will be ordinarily used up in shallow fields where the casing is set up permanently, or they will get rid of these sizes by grouping old material in one part of a district while using full strings of A. P. I. casing in other parts.

Smaller operators are protecting against the future by purchasing only about one string of casing ahead of current requirements, which means that they will be able to readjust their sizes to A. P. I. specifications after completing a single well.

Where operators have any considerable quantity of second-hand or light casing in their yards they say they are shipping, or will ship, this material to shallow fields in conjunction with their standardization plans of the future.

The failure of a number of companies to standardize as yet on A. P. I. casing reflects the question of deliveries, which are only now made possible in rotary territory. Every precaution is being taken, however, to keep old size casing stocks low and to work them out in the manner described.

Any time usable casing is pulled out of old wells, that material will be set on bottom in other wells, according to one production manager, who figured it would not be long until the old stuff quit coming back into the yards.

Another production manager said that his company is having drill collars made with tool joint thread on top, A. P. I. specification bit thread on bottom, for protection against any change in threads; this permitting the use of a "sub" from one to the other.

In connection with the Humble Oil & Refining Co's. rotary casing program in Gulf Coastal territory, it will ordinarily start with 16-inch, outside diameter, casing at the surface, reducing to 8⅝-inch casing to be set on top of the sand, and finishing with 6⅝-inch, outside diameter, screen.

The new 8⅝-inch, outside diameter, 32-pound casing costs about 50 cents a foot more than the old 6⅝-inch, inside diameter, 24 pound casing or about $2,000 more on a 4000 foot string; but, it is explained, the benefits accruing from finishing with the larger hole justify this greater expenditure.

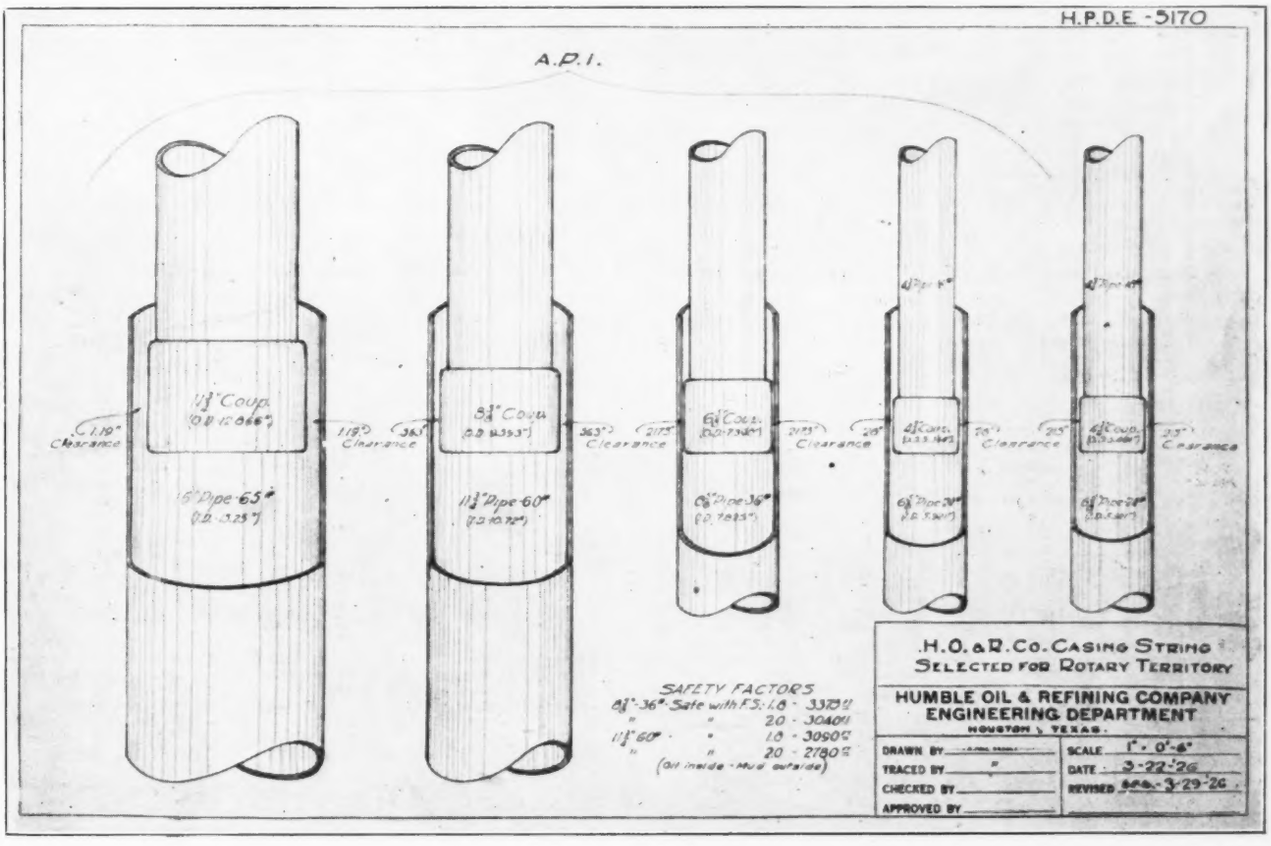
Sand Contact Gained

IN setting 6⅝-inch, outside diameter screen as against the 4½-inch inside diameter, 15-pound screen used with the old 6¼-inch casing, there will be approximately 60 square inches of area, or sand contact, gained per foot of screen. The advantage of this is apparent because of the greater seepage of fluid through the sand contact area.

It is explained that there is always a certain amount of reserve power available when drilling, so that there will be no materially greater expense to be reckoned with in setting the larger screen.

Elevators now in use, so far as production managers have checked, will fit

(Continued on Page 78)



Derrick Committee's Work is to Reduce Specifications

By W. W. Fondren
Humble Oil & Refining Co.

National Chairman, Standardization Committee on Standard Rigs and Derricks.

DURING the last year the Humble Oil & Refining Co., bought 292 steel derricks at a total cost of $305,-020.79, and four wooden derricks at a cost of $3,702.85.

About 1 per cent of the total amount expended being for wood, we will leave the wooden derricks out of the picture and confine our remarks to the steel derricks only.

One of the larger derrick manufacturing companies makes a derrick of ten different heights. Another makes a derrick of twelve different heights. Another eleven different heights and another ten. One of these manufacturers making derricks in 11 different heights, makes each derrick in three different weights which would be 33 different specifications, and if each derrick is made for either rotary drilling, cable tool drilling with calf wheel and combination (rotary and cable) would give you 99 different specifications for this one manufacturer, and as no two use the same specifications, nor make the same height derrick, except in one or two instances, you might say we have 4 times 99, or 396 different derrick specifications for only four of the larger derrick manufacturing companies. So much for the manufacturer.

Walter W. Fondren, Vice-president, Humble Oil & Refining Co., Chairman, committee on Standardization of Standard Rigs and Derricks.

In order to determine what was being used by the operators, we divided the United States into six different parts and appointed a chairman in each district. They in turn formed committees of men close to the industry, if not in it, and through these different chairmen and their committees we obtained answers to questionnaires sent out, which were compiled in this office, and the results mailed back to the chairmen with the request that they get together and reduce the number of different heights, bases, tops, etc., for his territory. Results of this further reduction being compiled and discussed fully at different meetings with the result that five different heights of derricks were standardized on, namely: 74, 82, 94, 114 and 122 feet, all with the exception of the 74' having a 5' 6" opening, and it a 4' 6" opening.

If these five derricks are made in four different weights and each derrick is made for the three different forms of service, rotary, cable and both, we will have 60 specifications, instead of 396, as we now have.

It is hard to estimate the amount of money to be saved in time and material, confusion and waste, but it will be considerable.

(Continued from page 77)

new sizes of pipe and casing, requiring no adjustment of operations in that regard.

Explanation of Sketch

AN accompanying sketch shows Humble Oil & Refining Co. casing strings selected for rotary territory, as prepared by Walter W. Fondren, vice president in charge of Gulf Coastal operations, and Arch M. Bowman, general purchasing agent. The sketch, which is self explanatory, shows inside and outside diameters of the various casing sizes, weights, clearances and safety factors.

All sizes shown in the sketch conform to A. P. I. specifications except the last, which is included for possible use in some cases only.

The accompanying table of clearances is being sent out to field superintendents and foremen as a ready reference to be used in their work. The table makes unnecessary the looking up of a book of standards, which ordinarly would not be conveniently at hand, to see about diameters and clearances affecting the next string to go in a well.

CLEARANCE OF STANDARDIZED CASING SIZES

Table of Clearances of Various Sizes of Casing of A. P. I. Standards, Prepared by Humble Oil & Refining Co. For its Drilling Superintendents

Casing O.D.	Weight	Casing I. D.	Coupling For	Coupling O. D.	Clearance Total	Clearance Each Side
24½"	113 #	23.65"	21½"	22.625"	1.025	.5125
24½"	100.5 #	23.75"	21½"	22.625"	1.125	.5625
24½"	88 #	23.85"	21½"	22.625"	1.225	.6125
21½"	114 #	20.51"	18⅝"	19.75"	.7600	.3800
21½"	103 #	20.61"	18⅝"	19.75"	.8600	.4300
21½"	92.5 #	20.71"	18⅝"	19.75"	.9600	.4800
18⅝"	96.5 #	17.655"	16"	17.00"	.655	.3275
18⅝"	87.5 #	17.755"	16"	17.00"	.755	.3775
18⅝"	78	17.855"	16"	17.00"	.855	.4275
16"	84 #	15.010"	13⅜"	14.375"	.635	.3175
16"	75 #	15.125"	13⅜"	14.375"	.750	.3750
16"	65 #	15.250"	13⅜"	14.375"	.875	.4375
16"	55 #	15.375"	13⅜"	14.375"	1.000	.5000
13¾"	68 #	12.415"	11¾"	12.866"	No Clearance	
13¾"	61 #	12.515"	11¾"	12.866"	No Clearance	
13¾"	54.5 #	12.615"	11¾"	12.866"	No Clearance	
13¾"	48 #	12.715"	11¾"	12.866"	No Clearance	
13⅜"	68 #	12.415"	10¾"	11.75"	.6650	.3325
13⅜"	61 #	12.515"	10¾"	11.75"	.7650	.3825
13⅜"	54.5 #	12.615"	10¾"	11.75"	.8650	.4325
13⅜"	48 #	12.715"	10¾"	11.75"	.9650	.4825
11¾"	60 #	10.72"	10¾"	11.75"	No Clearance	
11¾"	47 #	11.00"	10¾"	11.75"	No Clearance	
11¾"	60 #	10.72"	8⅝"	9.593"	1.127	.5635
11¾"	47 #	11.00"	8⅝"	9.593"	1.407	.7035
10¾"	55.5 #	9.76"	8⅝"	9.593"	.1670	.0835
10¾"	51 #	9.85"	8⅝"	9.593"	.2570	.1285
10¾"	45.5 #	9.95"	8⅝"	9.593"	.3570	.1785
10¾"	40.5 #	10.05"	8⅝"	9.593"	.4570	.2285
8⅝"	43 #	6.651"	8⅜"	9.0937"	No Clearance	
8⅝"	38 #	7.775"	8⅜"	9.0937"	No Clearance	
8⅝"	36 #	7.825"	8⅜"	9.0937"	No Clearance	
8⅝"	32 #	7.921"	8⅜"	9.0937"	No Clearance	
8⅝"	28 #	8.017"	8⅜"	9.0937"	No Clearance	
8⅝"	43 #	7.651"	6⅝"	7.390"	.2610	.1305
8⅝"	38 #	7.775"	6⅝"	7.390"	.3850	.1925
8⅝"	36 #	7.825"	6⅝"	7.390"	.4350	.2175
8⅝"	32 #	7.921"	6⅝"	7.390"	.5310	.2655
8⅝"	28 #	8.017"	6⅝"	7.390"	.6270	.3135
8⅛"	39.5 #	7.185"	6⅝"	7.390"	No Clearance	
8⅛"	35.5 #	7.285"	6⅝"	7.390"	No Clearance	
8⅛"	32 #	7.385"	6⅝"	7.390"	No Clearance	
8⅛"	28 #	7.485"	6⅝"	7.390"	.0950	.0475
6⅝"	28 #	5.791"	5¾"	6.5625"	No Clearance	
6⅝"	26 #	5.855"	5¾"	6.5625"	No Clearance	
6⅝"	24 #	5.921"	5¾"	6.5625"	No Clearance	
6⅝"	20 #	6.049"	5¾"	6.5625"	No Clearance	
6⅝"	28 #	5.791"	4¾"	5.3640"	.4270	.2135
6⅝"	26 #	5.855"	4¾"	5.3640"	.4910	.2455
6⅝"	24 #	5.921"	4¾"	5.3640"	.5570	.2785
6⅝"	20 #	6.049"	4¾"	5.3640"	.6850	.3425
5¾"	22.5 #	4.99"	4¾"	5.3640"	No Clearance	
5¾"	19.5 #	5.09"	4¾"	5.3640"	No Clearance	
5¾"	17 #	5.19"	4¾"	5.3640"	No Clearance	
5¾"	14 #	5.29"	4¾"	5.3640"	No Clearance	

Reduction of Types and Sizes of Rig Irons of Benefit to All

By Wm. Schwemlein
Parkersburg Rig & Reel Co.

Chairman, Manufacturers' Sub-committee on Standardization of Rig Irons.

William Schwemlein, Chief Engineer, Parkersburg Rig & Reel Co., Chairman, Manufacturers' Sub-committee on Standardization of Rig Irons.

THE work of standardization of rig irons from the manufacturer's point of view was approached by giving consideration, in the order arranged, to the following three subjects:

1st, benefit to the user
2nd, benefit to the manufacturer
3rd, benefit to the furnisher of the raw material.

It was realized, from the start, that the success of the standardized product depends on its favorable reception by the faction which has to put it into use. Consequently whenever a choice was necessary from two or more possibilities, and it was thought that the user advice would influence that choice, his counsel was solicited. This was usually accomplished at a joint meeting of the manufacturers' committee with the district sub-committee, the district sub-committee consisting almost entirely of representatives of producers.

In giving consideration to the specification in existence before the standardization movement started it was noticed that there was a great variety of types and sizes of rig iron parts, many of which could be conveniently eliminated, thereby benefitting the user to some extent and at the same time giving the manufacturer a decided advantage in reducing the number of stock items both at plant and in warehouses. Regional preferences were subordinated to the desires of the field generally and the result was the adoption of a minimum number of types and sizes, adequate enough to handle all operations.

Part of the advantages to the manufacturer are naturally passed along to his source of supply, for, the manufacturer having reduced number of types and sizes to produce will require a less number of raw material items to produce them.

The expense attached to the standardization work as participated in by the manufacturer has been considerable. This has been in the form of engineering time, cost of conducting experiments, expense incurred in attending conferences, in addition to the major expense of replacing equipment for the old product with equipment for the new.

The expense of replacing equipment is greatest for that manufacturer who is fixed to produce rig irons in the greatest quantities for his production calls for metal patterns, molding machine equipment, high production machines, dies, jigs and fixtures, all of which are costly to replace. One manufacturer estimates his total expenditure in connection with equipment as being over $42,000. $17,000 of which is chargeable directly to the work and $25,000 indirectly, the latter sum being spent for equipment used on work other than A. P. I. rig irons but made necessary by their production.

The manufacturing fraternity have given to this cause freely and willingly and have shown an admirable spirit of sacrifice, none of the manufacturers having displayed an attitude indicating that his product should be favored by the adoption of standards to conform to his past practices. However, in a number of instances, an established standard was adopted, because of its suitableness and to prevent the discarding of old equipment whenever possible.

The question of just how far to carry the work of standardizing rig irons has been much debated. At present the sentiment generally is to stop with the setting of standards for dimensions of parts which affect their interchangeability. This is probably the proper course, for it will leave something to the individuality of the manufacturer, he being permitted some latitude in the selection of material and the employment of refinements in the product if he so chooses.

Tankage Standardization Work Is In Recommendation Stage

By G. M. Vandaveer
Midwest Refining Co.

National Chairman, Committee on Standardization of Steel Storage and Production Tanks as Applied to the Production of Oil.

THE work of the A. P. I. Committee on the Standardization of Steel Storage and Production Tanks as applied to the Production of Oil has progressed to the point where recommendations are available on large tanks from all the various districts. These district reports have been correlated as far as possible, as per copy of report shown on the following page.

It is hoped as a result of these reports that we can strike a medium which will meet the requirements of all concerned, and be equitable with respect to the users in the various districts. There is a slight variation in the several recommendations, fortunately not a very great one. This is due, no doubt, to the difference in the quality of the crude products. As an illustration, in the eastern district, where the soil is not chemically active, a Number 6 gage bottom for a heavy tank might seem inadequate, while in the west and southwest where the soil is strongly corrosive a heavier bottom is desirable in order to resist corrosion. In the southern district, there are no snow loads, the roof supports can be made lighter than in the northern district where the snow loads require heavier columns.

In the interest of standardization, it seems advisable that we do not permit the smaller details to interfere with the successful conclusion of our problems, and we hope that this thought will be constantly in mind in endeavoring to reach a definite result.

COMPARISON OF TENTATIVE SPECIFICATIONS FOR STEEL TANKS

Submitted to A.P.I. Special Committee on The Standardization on Steel Storage and Production Tanks by Its Sub-Committees at Los Angeles, California — January, 1926

Specifications for Steel Tanks of 30,000 Barrels Capacity, or Greater

Note:—X indicates that the item thus referred to is not covered by the specification in question

Item — District Sub-Committee	EASTERN	MID-CONTINENT	TEXAS		ROCKY MOUNTAIN	CALIFORNIA
General Form of Reports	The report of the Eastern District Sub-Committee, submitted at Dallas, June 15, 1925 is a specification for steel storage tanks of a capacity of 30,000 barrels or greater, together with a specification for field tanks of capacities from 25 to 100 barrels.	The report of the Mid-Continent District Sub-Committee, dated September 25, 1925 is a specification for steel storage tanks of a capacity of 30,000 barrels or greater, with a recommendation that field tank specifications be left to the National Committee, and the field production tank manufacturers committee.	The report of the Texas District Sub-Committee contains specifications for 10,000 barrels, 55,000 barrel and 80,000 barrel steel tanks only. (The comparison lists the 55,000 barrel tank specifications and the 80,000 barrel tank specifications only).		The report of the Rocky Mountain District Sub-Committee is a specification for steel storage tanks of a capacity of 30,000 barrels or greater, with brief notes regarding smaller tanks.	The report of the California District Sub-Committee is a specification for steel storage tanks of capacities from about 1,000 barrels to 80,000 barrels, standard sizes being recommended.
			55,000 bbl. Tank	80,000 bbl. Tank		
SIZES (Standard)	X	X	55,000 bbl. 115′x30′	80,000 bbl. 120′x40′	X	(Approx. Cap.) 34,000 bbls. 90′x30′ 65,000 bbls. 115′x35′ 80,000 bbls. 120′x40′
MATERIAL						
Plates	X	X	X	X	X	Class "A" Am. Steel Mfrs. or A-7, A.S.T.M.
Structural Steel	X	X	X	X	X	A-9, A. S. T. M.
Rivets	X	X	X	X	X	A-31, A. S. T. M. except wrought iron for refined oil tank bottom rivets.
BOTTOM						
Sketch Plates	¼″ min. tanks over 30′ high.	Same as Eastern	¼″ min.	5/16″ min.	5/16″ min.	10.2 # per sq. ft. (⅛″) min.
Rect. Plates	No. 6 gage min.	Same as Eastern	Same as Eastern	¼″ min.	¼″ min.	10.2 # per sq. ft. (¼″) min.
Bottom Angle	4″x4″x½″	4″x4″x5/16″	Same as Eastern	4″x4″x5/16″	Same as Eastern	Same as Eastern
Rivets	⅞″ min. at 1½″ pitch	Same as Eastern	1/16″ at ½″ pitch to bottom plates ¾″ at 2¼″ pitch to 1st shell ring.	**See detailed specification.**	½″ at 1½″ pitch.	Same as Eastern
SHELL						
Max. width of plates	60″	Same as Eastern	Same as Eastern	Same as Eastern	Same as Eastern	Same as Eastern
Max. length of plates	15′—16′	Same as Eastern	Same as Eastern	Same as Eastern	16′	Not limited
Min. thickness of plates	No. 6 gage	No. 6 gage				
Working Stresses						
Tensile, lbs. per sq. in.	55,000 ult.	Same as Eastern	Same as Eastern	Same as Eastern	Stresses to be determined by special committee.	21,000 max.
Shear, lbs. per sq. in.	40,000 ult.	Same as Eastern	44,000	44,000		16,000 max.
Boarings, lbs. per sq. in.	X	X	X	X		37,500 max.
Net Sections-how taken	X	X	X	X		Method defined
Computation of stresses	X	X	X	X		Method defined
Safety Factor, (water basis)	2.5	Same as Eastern	Same as Eastern	Same as Eastern	X	X (about 2.5 on above stresses)
Riveting						
Minimum	1/16″ at 1½″ pitch	Same as Eastern	**See detailed specification.**	**See detailed specification.**	½″ at 1½″ pitch	To conform to good shop practice.
Maximum	⅝″, but not over 2x plate thickness.	Same as Eastern	**See detailed specification.**	**See detailed specification.**	Not over 2x plate thickness.	To conform to good shop practice.
ROOF						
Plates	5/16″ min.	Same as Eastern	Same as Eastern	Same as Eastern	Riveted ¼″ min. Welded 3/16″ min.	5.1 # per sq. ft. (3/16″)
Top Angles	X	X	3″x3″x⅜″ min.	3″x3″x⅜″ min.	3″x3″x⅜″ min.	3″x3″x⅜″ min.
Joints	Gas Tight	Same as Eastern	Same as Eastern	Same as Eastern	Same as Eastern	Same as Eastern
Roof Load	X*	X*	D.L.plus 25 # 1 sq.ft.	D.L.plus 25 # 1 sq.ft.	X*	D.L.plus 25 # 1 sq.ft.
Columns	Tanks 30′ or less high 8″ center, others 6″ Tanks 30′ to 42′ high 10″ center, others 8″	Same as Eastern	**See detailed specification.**	**See detailed specification.**	Line pipe but not specified.	Unit Stress less than $22{,}000 - 100\frac{L}{R}$
Circular Girder	Depth greater than 1/25 clear span between columns.	Same as Eastern	Depth greater than 1/24 clear space between supports.	Depth greater than 1/24 clear space between supports.	Same as Eastern	X
Rafter Spacing	2 per shell sheet length in outer row.	Same as Eastern	Same as Eastern	Same as Eastern	8′ at outer ends	5½′ max.
Riveting						
Seams	⅝″ at 1½″	Same as Eastern	Same as Eastern	Same as Eastern	⅝″ at 1½″	5/16″ at 1″ min.
Curb angle to roof sheet	⅝″ at 2″	Same as Eastern	X	X	½″ at 1½″	5/16″ at 1″ min.
Welding	Permitted	X	X	X	Permitted	Permitted
*Rafter and Girder Depths specified.						
ACCESSORIES						
Shell Manhole	Flanged plate or cast steel not less than 20″	About same as Eastern	Pressed steel not less than 20″ drain.	Pressed steel not less than 20″ drain.	Oval 20″x30″	X
Roof Manhole	Not less than 20″ diam. Gas Tight.	About same as Eastern	Same as Eastern	Same as Eastern	Same as Eastern	X
Swing Pipes	8″ Double end nozzle	About same as Eastern	About same as Eastern Tee inlet	About same as Eastern Tee inlet	X	X
Winch	On shell, worm gear type.	About same as Eastern	Same as Eastern	Same as Eastern	About same as Eastern	X
Stairway	Straight not steeper than 50°	About same as Eastern	Straight not steeper than 45°	Straight not steeper than 45°	Straight and stiff not more than 45°	X
Thief Hatch	3—8″ gas tight	About same as Eastern	4—8″ gas tight	4—8″ gas tight	2—8″ gas tight	X
Gauging Hatch	6″ Auto closing	8″ Auto opening	1—not less than 2″ inside, auto closing	1—not less than 2″ inside, auto closing	1—6″ auto closing	X
Draw Off	6″ in bottom ring sheet	Max. 6″, Min. 3″	4″ in bottom ring.	4″ in bottom ring.	6″ in shell	X
Roof Vents	Ample for temperature changes and pumping.	Same as Eastern, but 10″ for 80 M and 8″ for 55 M etc.	Same as Eastern with flame arrester. **See detailed specification.**	Same as Eastern with flame arrester. **See detailed specification.**	X	X

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Roster of A. P. I. Standardization Committees

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Members

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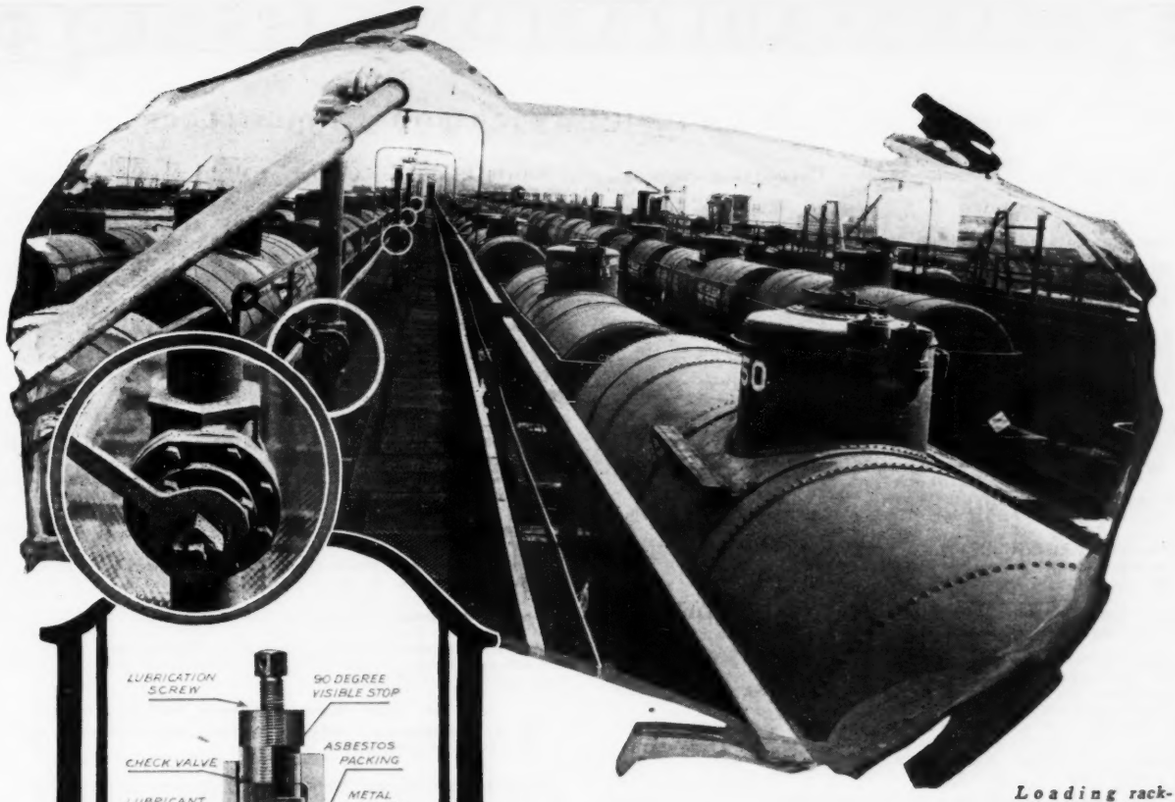
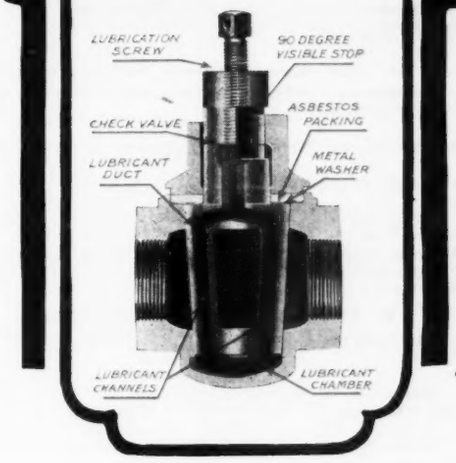


Loading rack-Mid-Continent Petroleum Corp., (Cosden & Co.)



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Much Achieved by Standardization Move In Industrial World

By Ray O. Hudson
Chief of Division of Simplified Practice, Department of Commerce.

IN THE promotion of uniformity, whether by standardization or simplification of variety, many events have taken place in our national history which are so familiar and so commonplace as to escape our attention, except occasionally when there is brought to one's attention experiences in other lands which show us at once how much has taken place, and how much remains to be achieved. A hasty glance at our industrial history during the last 25 years gives an idea of our progress.

The greatest steps have taken place, apparently, in two fields, in both of which the petroleum industry has a direct interest. The first of these is the railway transportation field. The second is in electricity.

The younger generation of Americans probably have only a faint recollection of stories of "narrow gauge" railroads. Perhaps they may have seen some used in amusement parks. But it is only the old timers who can remember when "standard gauge" became an accomplished fact, when the old "link and pin" coupler gave way to the automatic coupling device and the old-fashioned hand braking system of controlling trains gave way to the airbrake; when certain types of freight cars became more or less standardized, and the steel passenger car replaced to a large extent the old-fashioned wooden coach. But that is a story in itself.

The story of electrical development, too, is another history of uniformity, standardization and simplification, which is so common in some phases as to be frequently overlooked.

Standardized Illumination

THE transition from the time when replacement of an incandescent bulb was almost an engineering feat because of different voltages, sizes of bases, etc., to the pesent day when only three voltages are at all common (and one of these is fast going into the discard;) and when the person in Portland, Maine, can take an electric lamp to San Diego, Calif., with assurance that it will fit, has become commonplace, also.

Yet the standardization of lamp bases, of lamps themselves, of much of the equipment in the public utility power plant, has all been a factor in making the dollar of 1925, buy fifteen times as much illumination as it did in 1886, and has been a tremendous influence in the increase in residences wired for electricity from 10,500,000 in 1923 to 14,540,000 in 1926, and in a gain from 7½ billion kilowatt hours for home consumption in 1920 to 16 billion kilowatt hours in 1926.

It is interesting to note, too, that in 1924, according to the U. S. Geological Survey, the petroleum industry was called on to furnish 16,629,643 barrels of oil to the generating plants of these utility companies—a small percentage of the total, but significant.

It might well be said that the petroleum industry owes its present day development to standardization in another branch of transportation—the automotive field. The history of American motor car development is a record of a struggle for improvement not only of the car itself, but for the methods of production, so that the marketing possibilities might be taken fullest advantage of.

More Car for Less Money

THE success of that effort is written in the comparative price of automobiles 25 years ago and today. That it has not been perfect and that it could not be perfect from the standpoint of standardization is due to invention and improvements, whether in the mechanical development of the vehicle, or of the fuel. In both directions this improvement has been constant and the search has been continued aggressively; but those most active in this work see a long road ahead before the goal is reached. Yet the progress made is indicated by the fact that the car of today costs 29 per cent less than before the World War, while commodities in general cost some 67 per cent more. Simplicity and efficiency of operation have likewise made great strides. Notable steps toward simplification and standardization are being made by research organizations of the great motor companies, the Society of Automotive Engineers, the United States Bureau of Standards and other bodies.

In the metal trades, particularly those affecting building and construction, there has been brought about a marked reduction of variety. Sheet steel for construction, steel reinforcing bars, range boilers, hot water storage tanks, builders' hardware, steel lockers, and other items have been subjected to a close scrutiny; and a vast number of "dead" or slow-moving items eliminated by the simple process of studying the range of variety, the demand, actually produced and the large proportion of these which were so infrequently called for as to be virtually "specials." The elimination in these instances has been developed by joint conference of the makers, the distributors and users, together by invitation of the Division of Simplified Practice of the Department of Commerce.

A Meeting Place for Industry

THIS division's activities are purely cooperative; and its services are increasingly in demand. The division is the heir to work undertaken by the Conservation Division of the War Industries Board, in eliminating unnecessary variety in every-day commodities. The chief difference, however, is that where the War Industries Board was clothed with authority to order these eliminations to be made, the division's work is purely one of cooperation. It gives its services only where they are requested. It can invite, but not compel; nor does it desire the power to do so.

This is an age of self-government in business, and the division represents a focusing point, a friendy and neutral meeting ground where all interested groups in an industry can be brought together to consider their mutual problems, whether such groups represent maker, distributor, user or trade, technical or scientific body. In this neutral atmosphere the facts can be presented and recommendations adopted for reducing variety. But the task of "selling" these recommendations to the industry, of bringing a general adherence to the recommended program rests chiefly with the industry itself, with only such moral influence as the division can give.

A Wholesale Elimination

THE sheet steel industry, referred to previously, found that the variety of sizes of sheets and gauge of material included 1819 items. The bulk of demand was for 263 items. In 35 companies the production of some of the other 1500 items did not total 100 tons over six months! The elimination of these nonproductive items has brought savings to the producer and distributor of more than $2,400,000 in a year—and this saving is increasing rather than decreasing. In the reduction of cross section areas of steel reinforcing bars from 40 to 11, there was released an investment in stock estimated to be more than $4,500,000 a year, to say nothing of the econo-

mies in storage space, handling costs, clerical work and other expenses. These are typical instances, and similar reports have been received from other industries which have had the division's co-operation.

That these programs stand on their merits and do produce results is indicated by the fact that the industries which have adopted simplified practice showed an 82 per cent adherence to their programs during 1925.

The progress of standardization in the petroleum industry is an important parallel to the work which has been done in other industries. With more than 299,000 producing wells in the United States, the work of standardization bodies of the American Petroleum Institute on such subjects as belting, oil field boilers, cable drilling tools, rigs and derricks, pipe, rig irons, drilling equipment cordage, tanks and pumping equipment, is of the utmost significance to the industry. Estimated potential savings in these items run into the millions of dollars, and influence the cost of every barrel of oil.

A number of the simplified practice programs which have been adopted are of interest and significance to the petroleum industry, among them the reduction of steel barrels and drums from 66 sizes and types to 24. The production of an increased number last year showed more than 84 per cent adherence to the simplified practice program; and a recent conference to consider whether revisions were necessary resulted in a reaffirmation of the program.

More Oil Industry Subjects

WORK undertaken toward the simplification and standardization of underground tanks for gasoline, fuel oil, etc., undertaken some time ago, offers a fertile field for further cooperation from the petroleum industry, especially in view of the increasing replacement of coal-burning heating equipment with oil-burning apparatus.

As Secretary Hoover has said:

"The saving in national effort * * * as demonstrated by many well known examples of simplification and standardization, runs into millions of dollars. There is a great area still untouched, in which the application of these waste-eliminating measures may well save not millions but billions. The consequent reduction of manufacturing, selling and distributing costs, and the release, for active use, of millions now tied up in slow-moving stocks, combine to yield savings eventually reaching the consumer in lower prices, thus increasing his real wages and assisting him to a higher standard of living. The rate of our advance must be, and will be, in proportion to the extent in which we all cooperate for the elimination of waste."

JONESBORO, ARK.—The Arkansas Co. has sold out to George A. Knox and A. M. Heringer, who will continue to operate the company under the name of the Lone Star Co.

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NATIONAL PETROLEUM NEWS

807 Caxton Bldg., Cleveland, Ohio

Rig Iron Standards Near Completion

COLORADO SPRINGS, June 18

STANDARDIZATION of rig irons is now practically complete and it is possible to secure a concrete illustration as to what it means to a manufacturer to make his product meet the standardization specification.

A representative of one of the largest manufacturers of rig irons now shipping about three carloads, or 30 sets of irons daily, stated that the expense of his company directly incidental to changing over so as to be able to manufacture the A. P. I. rig irons has been approximately $20,000.

It has been necessary to spend this amount principally for patterns, foundry equipment, tools, gauges and fixtures. In addition to this, another $20,000 expenditure is indirectly attributable to changing over to standardized irons. This was spent for new machines, which probably would have been bought in the next few years even if standardization had not gone into effect, but the purchase of which became necessary when manufacture of standardized irons was to begin. These machines included a multiple milling machine costing $14,000, a multiple boring machine at $3000 and a single head milling machine at $3000. Neither of these estimates of expense include the large amount the company has spent for engineering work in connection with the standardization movement.

The questions of tolerances and of keys and keyways are now the only obstacles preventing final adoption of standardized rig irons and the actual beginning of their manufacture, and this company's representative states that, if this problem could be solved and the final details decided upon, his company would be ready to start shipment of standard rig irons in two weeks. All patterns have been made, machinery installed and everything is ready to go.

It is probable that experience of other rig iron manufacturers has been similar. All have had to make a large number of changes in design and in machinery and equipment to turn out products meeting the A. P. I. specifications. It was pointed out that addition to the new big machines making possible larger production would probably permit this company to sell the standard rig irons at the same price as formerly. In addition to this quantity production angle, the manufacturer will not have to make so many sizes of irons after standardized manufacture has started, as the A. P. I. specifications call for four sizes instead of six now being made. The company has been making the following sizes of rig irons five inch in two lengths of shaft and six inch in two lengths. When manufacturing standardize irons it will turn out only four and one-half inch, five inch in two lengths and six inch iron.

Close Fractionation Necessary in Monroe Field to Get Gasoline Yield

By J. C. Chatfield
N. P. N. Staff Writer

GAS which would be considered very lean in most parts of the country for purposes of manufacturing natural gasoline is considered very rich in the mammoth Monroe gas field in Louisiana. In Oklahoma, for example, one-half gallon casinghead gas per thousand cubic feet is classed as lean, while in the Monroe field half gallon gas is about the richest found in the most favorable part of the field. The maximum for the field is 600 gallons per million cubic feet.

The Louisiana state conservation law requires that gas be processed to remove its gasoline content before it may be burned to produce carbon black if the gas is found to contain as much as 150 gallons per million cubic feet or 0.15 gallons per thousand. At the present time manufacturers of carbon black in the field are withdrawing 275,000,000 cubic feet of gas per day for burning and are making less than 60,000 gallons of natural gasoline.

In 1924, 134 billion cubic feet of gas was burned in the Monroe field for making carbon black and 25,600,000 gallons of gasoline produced, an average of 187 gallons per million cubic feet. In 1925 the carbon black industry consumed 125 billion cubic feet of gas in this field and manufactured 21,526,574 gallons of natural gasoline as a by-product, a yield of 171 gallons per million cubic feet.

It is not surprising that this condition which has confronted operators in the field has given rise to manufacturing practise which differs in many respects from that found in other parts of the Mid-Continent field.

Even the method of testing for gasoline content is different. The compression or physical testing method would be of little or no value in the field. The charcoal testing method has had to be modified to give results comparable with plant practise.

Testing Lean Gas

AT one plant in the Monroe field handling 15,000,000 cubic feet of gas per day the charcoal testing method shows a yield of 53 gallons per million cubic feet. The method used is to absorb the uncondensed gas after distilling out the charcoal, in mineral seal oil reduced in temperature to zero F. The difference in volume of the oil before and after absorption is then added to the amount of gasoline recovered by the normal test method. The result is a test of 178 gallons per million cubic feet.

To counterbalance the leanness of the gas, operators have certain favorable factors not enjoyed by manufacturers in other areas operating on casinghead gas. Gas reaches the plant without vacuum or booster stations. Well pressure is sufficient to circulate the gas through the absorbers and in certain plants it is used in place of steam for motive power as well, before it is passed on to carbon black burner houses. A very large part of the normal expense of operation is thus eliminated, which partially compensates for the leanness of the gas.

Because of the leanness of the gas to be treated the absorption process is used exclusively in the field. No attempt has been made to use the compression method.

A high degree of efficiency has been attained by manufacturers in the field through their study of absorption and fractionation. For example the plant mentioned above, which handles 15,000,000 cubic feet of gas per day testing 53 gallons by the atmospheric charcoal test, and 187 gallons per million when the test distillation vapors are absorbed in mineral seal oil at zero, produces around 2700 gallons of natural gasoline per day. This is a yield of 180 gallons per million

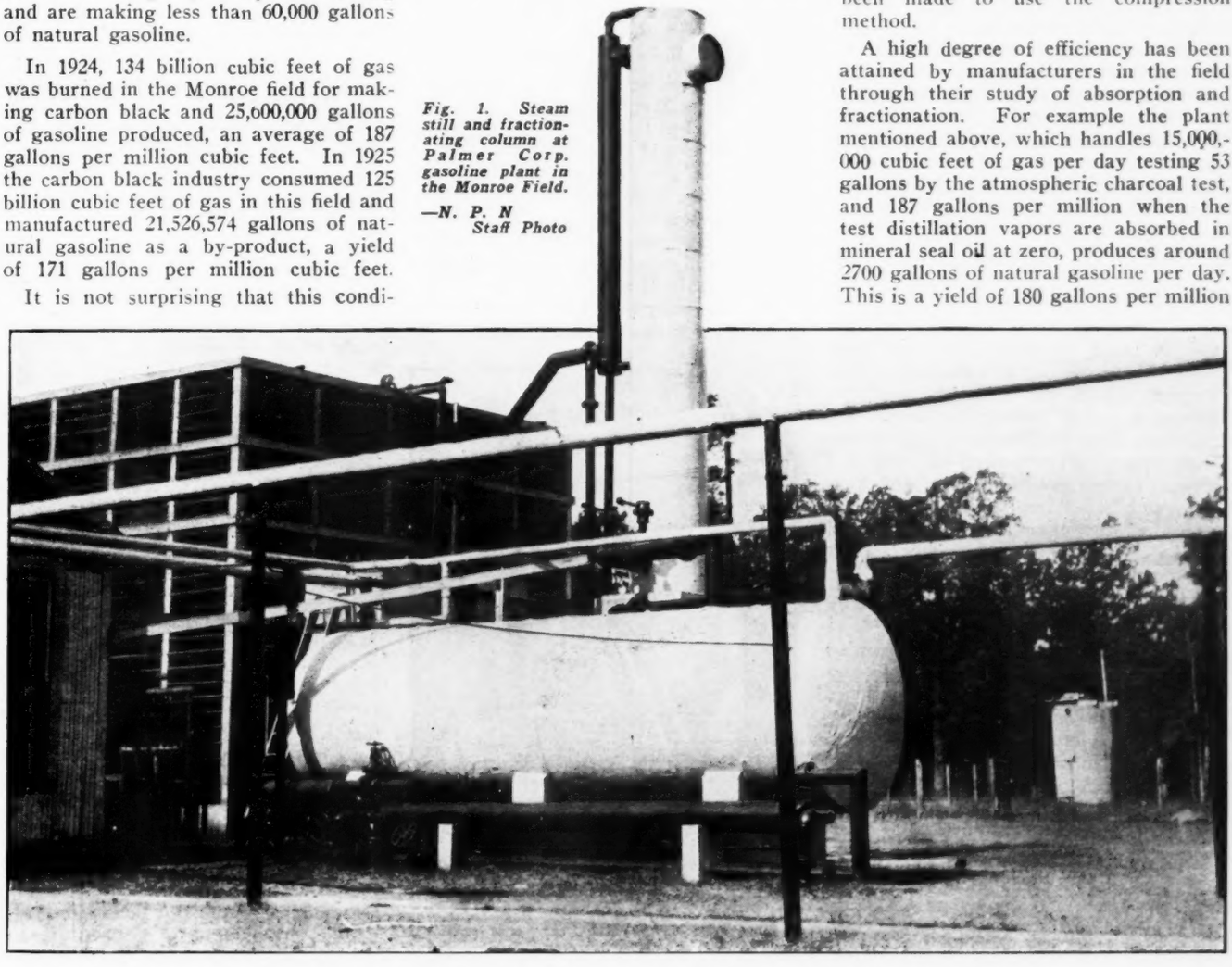


Fig. 1. Steam still and fractionating column at Palmer Corp. gasoline plant in the Monroe Field.

—N. P. N Staff Photo

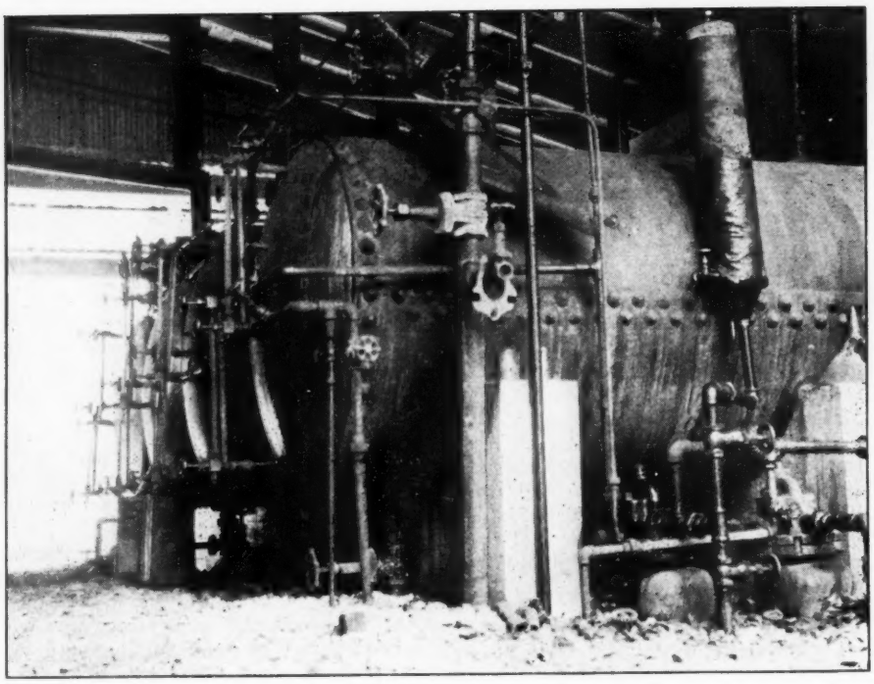


Fig. 2. Accumulator tanks. One is used for gasoline condensed at atmospheric pressure, one for that condensed at 60 pounds pressure and two for the high stage gasoline condensed under 250 pounds pressure.
—N. P. N. Staff Photo

or within seven gallons of the amount found by the rigorous test method.

Efficiency Factors

THE first factor in stripping the gas of its gasoline content is the circulation of large quantities of oil. A second is fractional condensation under pressure and at high temperatures calculated to give a stable finished product without inclusion of large quantities of propane. A majority of the operators in the field condense under variable pressures and fractionate their product very carefully.

Some of the fractionation which has been done in the gasoline plants in the Monroe field for about seven years corresponds very favorably with the best practise in other sections which has been obtained by the use of stabilizers. For example the Palmer Corp. has been producing a special product for laboratory purposes since 1919 which it calls petroleum ether. The product is composed almost exclusively of pentane and hexane. It has a Baume gravity of 94 degrees, a six pound vapor tension and boiling point range of roughly 100 to 150 degrees F.

This material was prepared especially for laboratory work first in 1919. News of the availability of the product spread and orders have reached the company from all parts of the United States and some foreign countries. The gasoline or petroleum ether has sold at 60 cents per gallon in 50-gallon drums and as high as $1.25 per gallon in five-gallon tins. A demand of around 5000 gallons per year has been created for the product.

Oil Circulation

To obtain a production of 2700 gallons of gasoline per day under summer operating conditions, the Palmer Corp. circulates 210,000 gallons of mineral seal oil per day. This is an oil circulation of 77 gallons for each gallon of gasoline produced, or 14 gallons of oil per thousand cubic feet of gas passed through the plant. Saturation of the rich oil leaving the absorbers is 1.28 per cent.

The average well pressure on gas produced in the Monroe field is around 200 pounds. When the gas reaches the gasoline plant it still is under a pressure of 150 pounds per square inch. It is run direct to the absorbers at this pressure without release. This is a pressure of roughly 120 pounds per square inch more than general practise in casinghead gasoline plants in the Mid-Continent field.

Mineral seal oil used at Monroe plants is largely obtained from Louisiana refiners who bring in Oklahoma paraffin base oil to their plants. The oil has an initial boiling point of 500 degrees F.

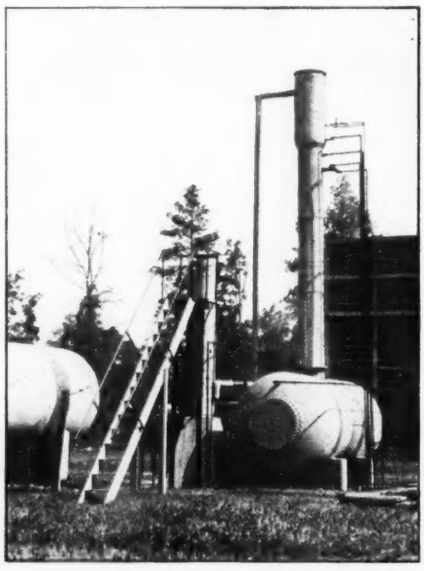


Fig. 3. Special steam still and liquefying column (at left) used for production of petroleum ether.
—N. P. N. Staff Photo

At the Palmer plant a temperature of 212 to 216 degrees is maintained in the steam still. A frequent check of the vapor pressure of the denuded mineral seal oil is made to see that it is being completely stripped of its absorbed gasoline. In practise the vapor pressure curve of denuded mineral seal oil is kept somewhat below the vapor pressure of fresh mineral seal oil from the refinery.

By keeping the vapor pressure of denuded oil below that of new oil it will be observed that the operators are actually driving over some of the light ends of the mineral seal oil with the absorbed gasoline to make sure that they are stripping down completely. A tower on the steam still as large as ones used in some refineries controls this factor and keeps the end point of the finished natural gasoline at around 360 degrees F. The operators have found that the carry over of mineral seal oil amounts to around 1.4 per cent of the gasoline produced.

Condensing Practise

PRESENT practise at many plants in the field is to run the vapor stream from the steam still through the condensing coils once at atmospheric pressure. The uncondensed vapors are then compressed to a pressure of 60 pounds per square inch and run through the coils a second time. Vapors which are still uncondensed are compressed to 250 pounds and recirculated a third time. Separate accumulator tanks are kept for the low, intermediate and high stage gasoline. A view of these tanks at the Palmer plant is seen in Fig. 2.

At the Palmer plant the high pressure gas is utilized to operate the compressors. The Palmer plant has two Type 10, Ingersoll Rand steam compressors to compress the still vapors. The high stage compressor has a 6 by 8 cylinder and the low a 12 by 8 cylinder. The gas reaching the plant at 150 pounds pressure is heated by an exchanger shown beside the steam still in Fig. 1, running counter current to hot oil from the still. It goes direct from the exchanger to the steam cylinder and is exhausted at a pressure of about 15 pounds.

Small Low Stage Production

ON the day before the writer visited this plant the total production of gasoline was 2730 gallons of 86.6 gravity gasoline with a 12-pound vapor tension. Of this amount 833 gallons only was distilled at atmospheric pressure. This amounted to only 30.5 per cent of the total production. Without the use of pressure distillation the plant would have recovered less than a third of its actual production.

The low stage gasoline at this plant ranges from 72 to 75 gravity. The intermediate gasoline condensed at 60 pounds pressure has a gravity of about 90 and the high stage gasoline about

110 degrees Be. When combined as a final product it ranges from 86 gravity in summer with a 12-pound vapor pressure to 92 gravity in winter with a 14-pound vapor pressure.

It will be observed from the statements above that the Monroe gas, in addition to being lean, has very little heavy fractions. It consists largely of butane and the problem of manufacturers is to get all of this butane without picking up the propane. This is accomplished by the pressure condensation at high temperatures and recirculation of vapors vented when pressure is released at accumulator tanks.

Special Product

TO manufacture the special product known as petroleum ether the operators at this plant employ the same principle as that used in the manufacture of liquid air. It consists essentially of expanding a highly volatile product under high pressure to atmosphere and thus dropping out its lowest boiling point fractions as a result of the refrigeration produced.

In the small still shown in Fig. 3 the low stage gasoline is vaporized and closely fractionated in the column above it, which is water jacketed at the top and closely controlled as to temperature. To the left of the still is a second tower or liquefier in which the special product is produced.

The upper part of the liquefying column is packed with baffling material supported on a perforated plate. Just below this place the high stage gasoline at 250 pounds pressure is released to atmospheric pressure in an open chamber, producing intense cold. Near the point of release of the high stage gasoline the low stage vapors from the still are admitted and liquefied. A heat gradient is maintained in the column by the expansion of the high stage vapors and the subsequent liquefaction of a part of the material.

By recirculation of material and accurate control of this still and liquefying column it would be possible to produce very nearly if not completely a pure fraction of butane or pentane if desired. In that respect it corresponds closely to the possibilities of stabilization which was developed a few years later in eastern fields and found its way into the Mid-Continent late in 1923. At the Palmer plant the apparatus has not been used to eliminate propane from the total plant product because of the fact that is accomplished as well as is needed by the fractional condensation method described above. It is used only to prepare the special product as demand is apparent. As mentioned above the apparatus for this product was developed and put in operation in 1919 and a demand has accumulated which takes about 5000 gallons per year.

Plants in Field

AT the present time there are 23 natural gasoline plants in operation in the Monroe Field. These plants are processing a majority of the 275,000,000 cubic feet of gas used in the manufacture of carbon black and are producing in the aggregate about 60,000 gallons of gasoline per day.

The Southern Carbon Co. is building a new 5000-gallon plant near Greenwood to add to its group of five plants. This company has the largest production of any company in the field. The United Carbon Co. has eight plants in operation and is the second largest producer in the field.

The following table gives the total production of carbon black and natural gasoline by months for the field during 1925 out of 125,496,213,000 cubic feet of gas processed and burned:

	Carbon Black (Pounds)	Gasoline (Gal.)
Jan.	13,044,368	2,290,245
Feb.	12,055,747	2,015,656
Mar.	10,761,257.75	1,949,621
Apr.	10,374,616	1,734,070
May	10,074,160.5	1,727,256
June	9,537,945.5	1,548,745
July	10,698,594	1,602,237
Aug.	11,040,561	1,578,806
Sept.	10,601,952.5	1,548,931
Oct.	10,872,870	1,800,298
Nov.	10,342,910.5	1,914,925
Dec.	10,766,585	1,815,793
Total	130,161,585.75	21,526,574

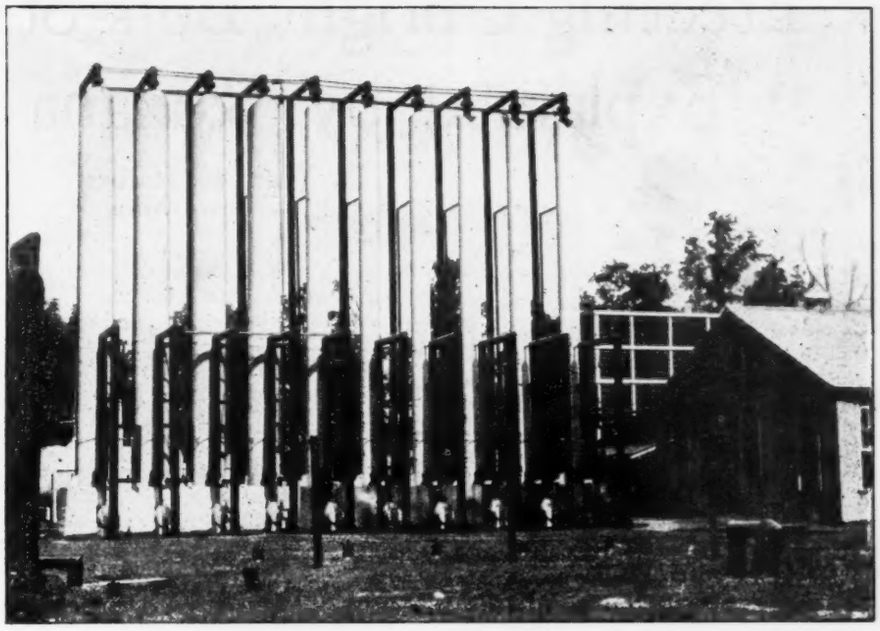


Fig. 4. Battery of 10 high pressure absorbers. Operating at 150 pounds pressure.

Butler Employes Picnic

KANSAS CITY, MO., June 19.—A bet which had to be paid off by a picnic, was enjoyed by officers, office employes and factory foremen of the Butler Mfg. Co., manufacturers of oil marketing equipment, June 5, at Wildwood Lakes, Mo., the property of E. E. Norquist, vice president of the Butler company, and by William C. Glover, manager of the gasoline purifying system department of the company, which is known as the Glover Sales Co.

The bet was made by Mr. Glover, who had promised his department a picnic if it went over $100,000 worth of business in April.

The entire company joined Mr. Glover and gave the picnic. Swimming and Charleston contests were held, as well as a bathing beauty contest, Miss Nevilyn M. Bachman being selected winner in the latter. A game of baseball was played between factory foremen and office employes. To Earl VanBuskirk, a salesman in the Missouri territory, go the honors as hero of the day. He jumped into the water in street clothes and pulled out a little girl who had fallen in where it was 18 feet deep.

Among the officers attending the picnic were C. C. Crouch, vice president and manager of the Minneapolis branch; F. A. Rufi, assistant vice president; William A. Knapp, secretary in charge of sales; H. L. Alleman, secretary of the Glover Sales department; Mr. Norquist and Mr. Glover.

WAUKON, IA.—Waukon Oil Co. has put into service an additional truck. H. W. Bender, formerly service station attendant, is driver of the truck.

Business in this territory is very good, Joe White, manager, states, and jobbers report large sales on lube oils and greases.

AKRON, O.—B. F. Connelly, who recently completed bulk storage for gasoline, is erecting a 12-car repair garage and wash rack at his main service station here.

VERMILLION, O.—J. J. Kelley has erected a service station at Sunny Side, Lake road, and is handling Sinclair products exclusively.

Erecting Upright Bulk Storage Tanks Explained by Roxana Engineer

By Ward K. Halbert
N. P. N. Staff Writer

CHICAGO, June 19.

ERECTING gasoline bulk storage tanks is an unusual job for a small-town contractor of general work. Being called on to perform such a task is amost an event in such a contractor's business career. If called upon suddenly to make a cost estimate of such a job, a contractor's figures are likely to be high. This is not because the contractor wants to "skin" the oil man. It is because he does not know, in many cases just how he will go about the job and what his own expenses will be. So in the absence of previous experience, his cost estimate is sure to include a wide allowance for error.

Roxana Petroleum Corp., erects its own tanks with its own men and does not let the job out to contractors as smaller operators usually do. Nevertheless, Roxana has asked contractors to figure on such jobs in isolated cases, and in one instance the contractor's figure was twice the company's actual cost. Such estimates always run out of proportion to costs. Roxana engineers are not critical of contractors on this account. They point out that such jobs come rarely, if ever, to suburban contractors who are impressed so much with the dangers and complications of the undertaking that they are glad to submit an estimate that will let them out of it.

Not many weeks ago, at Aurora, Ill., Roxana erected a battery of four storage tanks on concrete foundation. C. F. Sapper, the company's construction engineer, was in charge of the job, and he made a complete photographic record of it, taking a picture of each important operation. The job was finished in one day with a crew of eight men. Incidentally, these men were not all experienced in such work. They were green and untrained common laborers, picked up in Aurora by the foreman of the crew. The foreman is the only permanent part of the organization. He travels from one job to another, sometimes taking one or two good men with him from a previous job but employing most of his help locally.

The Task In Hand

THE tanks to be erected were of the size Roxana has standardized on: 10 feet in diameter, 30 feet high, and holding about 18,000 gallons. They stand 13 feet and 6 inches from center to center. The equipment consists of a manually operated winch, a gin pole, two blocks and about 800 feet of 1¼-inch manila rope. The gin pole used on this job was a 50-foot telephone pole borrowed from the local agent of the Illinois Bell Telephone Co. The winch and block and tackle are trucked from one job to another. The winch cost less than $100 in the first place, so the equipment is not expensive and the depreciation on it is inconsiderable.

Mr. Sapper is an amateur photographer but his pictures turned out well. By examining the pictures in the accompanying lay-out successively in their numerical order, a more faithful account of the operation can be obtained than could be put in thousands of printed words.

The first picture shows the concrete foundation and a tank on the ground after they were unloaded from flatcars, the railroad side track being only a few feet away. The foundation is a reinforced concrete slab, 11½ x 51 feet and 12 inches thick with a foundation wall all around, extending below the frost line. The concrete was a 1:2:4 mixture, allowed to set for ten days after it was poured before any strain was put on it.

One side of the foundation is perfectly straight, but the other side has four V-shaped depressions along the edge (one for each tank) to allow for the installation of anti-freeze valves The valves are installed after the tanks are up. They go in the bottom of the tank, directly below the man hole. The plugs which stop the valve holes are discernible in the pictures. When standing erect, these tanks must each have its man hole directly above the triangular depression in the concrete. So the tanks were placed on the ground with their man holes up, tank bottoms close to the straight side of the foundation.

A Delicate Operation

LIFTING the tanks requires extreme care. If one should be allowed to drop, it is certain to be damaged, for such tanks weigh between twelve and thirteen thousand pounds and are built of quarter-inch plate. It does not require much pressure in the wrong place to make one leak, and even if it is battered ever so slightly it is practically impossible to bring it back into shape and restore its even gauge.

One of the first precautions before starting to lift a tank is to put a board against the edge of the concrete slab, between it and the end of the tank. With the pull that must be placed upon it, practically the entire weight of the tank turns on the edge of the concrete block. This strain is likely to crumble green concrete unless it is protected.

Making preparations for the lift at the Aurora erection, the manually operated winch was anchored firmly to a tree with a steel cable. A post hole was dug in the ground on the center line of the first tank (as it was to stand when finally in position) on the opposite side of the foundations from where the tank lay, about 2½ feet deep.

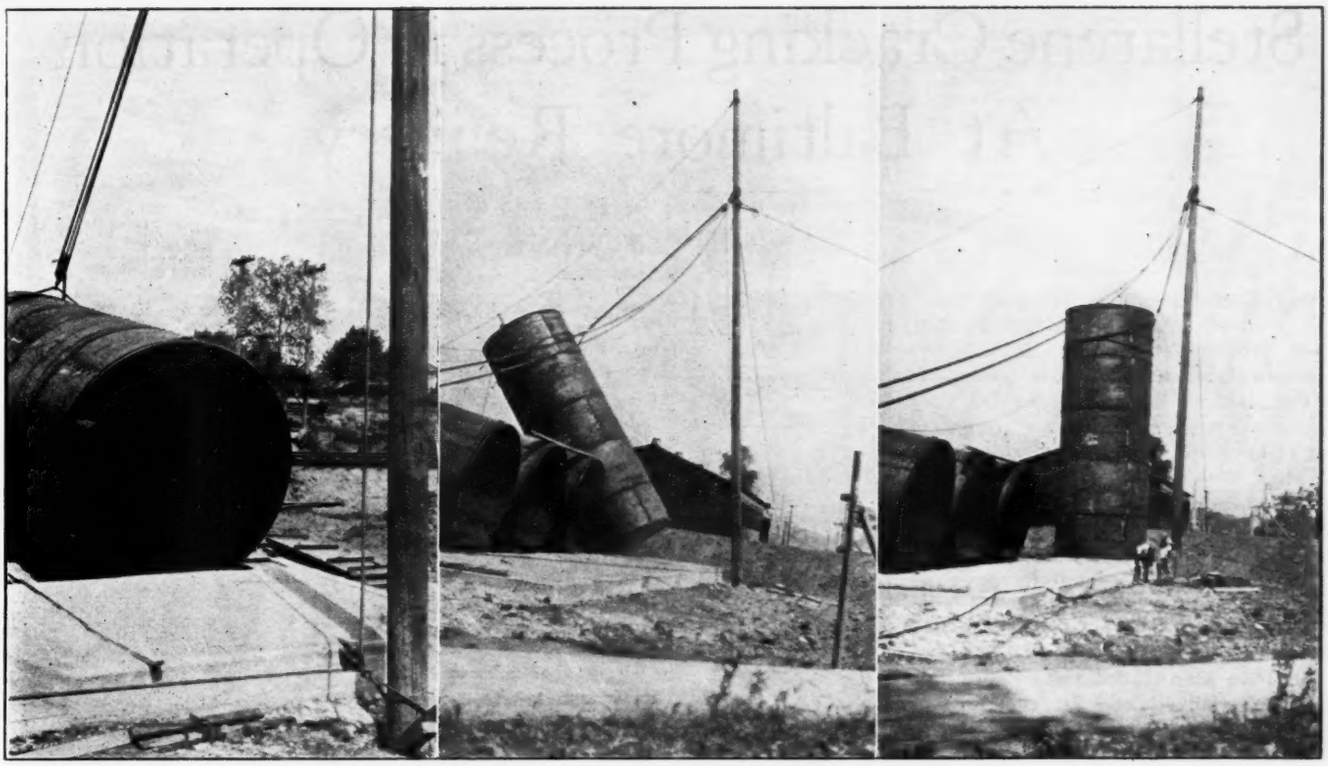
The gin pole that had peen unloaded from a truck on the lot was dragged into position with the big end at the hole and the little end pointing the other way from the winch. With the base of the pole at the mouth of the hole the small end was lifted a few feet in the air with pikes. Then steadied with guy ropes and pulled with the winch the pole was made erect in the hole with comparative ease. Then it was made fast by anchoring guy ropes in three directions and was ready to support the weight on the first tank. A three-sheaf block was tied to the pole near the top, a snatch-block near the ground, and a two-sheaf block at the tank.

Plan of the Rigging

THE tanks are five rings high. The lift was made at a point about five feet from the top, or near the bottom of the fifth ring. A rope was thrown around the tank four times at this point and the pull was made on the two middle strands, thus distributing the pressure and safeguarding the possibility of an unexpected turn of the tank. The line with which the pull was made extended from the belt around the tank, through the high, three-sheaf block, then through the snatch-block at the ground, and along the ground to the winch.

The pull on the tank was slow and steady. Two ¾-inch lines with block-and-fall were fastened to the top of the tank and a man at the end of each helped to steady the tank on its upward turn. This was done to make the tank rise plumb and prevent the consequences of a possible slippage at the base or slight giving way of the ground. Four men operated the winch on the pull. Two men turned the cranks at a convenient speed but the machine is geared down so the pull on the line is very slow.

Care was taken when the winch was purchased to have it equipped with a concave drum. The dangers of a straight drum are obvious. In operation, a straight drum makes the rope wind against itself and work from one side to the other. A concave drum tends to hold the pull to the center. The rope does not wind up around the drum but passes around it three times which is sufficient to make it hold. The third



Reading these pictures, left to right in their correct order, will tell the process followed by the engineering crew of Roxana Petroleum Corp., when it erects bulk gasoline storage. The pictures were taken in Aurora, Ill., where eight men placed four tanks in one day. The first picture shows the tanks on the ground after unloading, ready for installation on the concrete foundation which had been prepared 10 days previously. Tanks are placed on the ground from flatcars with the manholes up. This facilitates installation of anti-freeze valves, which are put in after the tanks are up.

A board is placed against the concrete slab foundation to pre-vent the concrete from crumbling when the tank turns on the edge in the process of being lifted.

With the aid of a manually operated winch equipped with a concave drum, a gin pole which has been lifted into the air with pikes on the opposite side of the foundation for the purpose of supporting the weight of the tanks, and with the gin pole anchored with guy rope in three directions, the tank is ready for lifting.

A rope is thrown four times around the tank near the top. The pull is made on the two middle strands. Four men operate the winch on the pull while two men turn the cranks at the right speed. It is important for the tank to arrive at its upright position as nearly as possible in the spot where it is to stand.

man at the winch pulls the rope away as fast as it is drawn in.

Accuracy an Object

IT is possible for the man in charge of the work at the winch to give slack and permit the tank to slip back slightly if the occasion warrants it. The strain of the lift is on the gears of the winch and every inch of progress is held with a ratchet so no backward turn is possible. If slack is needed it must be given over the drum.

When standing flat on its base and erect as in the third picture, it is difficult to change the position of a tank. Mr. Sapper says it is especially important to make the tank arrive at its upright position as nearly as possible in the spot where it is to stand. Just as little as possible ought to be done to it after it is up. With leverage and pinch bars, however, it is possible to make slight changes in a tank's position after it is erected.

One of the main things in effecting accuracy in the lifting operation is to have the gin pole in the right position. As mentioned above, the base of the pole should be in the ground on the center line of the erected tank. Then the pull should be made on the tank from a point directly above the man hole. The gin pole, obviously, can not stand in the same hole to erect any two tanks, the pole must be moved every time.

It is not necessary to take the pole down to move it. That would consume too much valuable time. Mr. Sapper directed his men to dig a trench from the hole in which the pole stood, along the edge of the concrete slab, 13½ feet, to the center line of the second tank. This trench was the same depth as the hole and provided a groove in which the pole could move from its first position to the second. Guy lines which held the top of the pole were slackened and with power from the winch it was skidded over to its new position. A board or small timber placed in the bottom of the trench provides an even surface for the pole to move on.

The whole four-tank installation was made in a single day, ready for pipe fitters and painters to come, make the connections and put on the finishing touches. The whole cost was about 50 per cent of the contractor's estimate.

Sinclair Refining Opens Boston District Office

NEW YORK, June 17.—A district office has been opened by the Sinclair Refining Co. in the Chamber of Commerce Bldg., at Boston, Mass., to handle distribution in the six New England states. Heretofore the company had no direct marketing activity in the New England section.

E. L. Wolfe, former manager of lubricating oil sales in the eastern district, which has its headquarters at 45 Nassau St., New York, has been appointed manager of the newly-formed New England district. Sales will be concentrated on lube oils and greases, as well as other products to jobbers, distributors and the general trade in that territory.

John J. Schratt, who had been for many years with the Union Petroleum Co., Philadelphia, and for the past three years with the Sinclair company at its New York headquarters, has been transferred to the New England office. He will cover the jobbing trade on oils and greases.

Mark H. English, formerly credit manager for the Sinclair at Philadelphia, and F. D. Gallagher, formerly secretary to W. T. Dinkins, manager of the eastern district at New York, have also been transferred to the New England office. Mr. English will be credit manager at the new office.

IVANHOE, MINN.—The Ivanhoe Oil Co has purchased the filling station formerly operated by the Standard Oil Co. of Indiana here, and has equipped it with two 10 gallon visible gasoline pumps, according to H. P. Faulds, secretary.

Stellarene Cracking Process in Operation At Baltimore Refinery

By Paul Truesdell

N. P. N. Staff Writer

ONE cracking unit producing Stellarene, an anti-knock fuel, by the process invented by William G. Leamon of Newark, O., is in operation at the plant of the Interocean Oil Co. at Baltimore. Three more units are nearing completion, one to start operating within a week or two.

The process, which accomplishes the cracking reaction in the vapor phase, has been described in this paper, insofar as the inventor will permit its description, as it operated originally at the plant of the Stellar Refining Co. at Newark, O. However, a number of improvements have been made at the Baltimore plant, especially in design and layout of the apparatus.

The interocean Oil Co. refinery, facing on Curtis Bay, was built in 1912 to operate on Mexican crude and did operate for several years on that crude. One of its products was oxidized asphalt, made by the air-blowing process, which is used for mixing in ground form with rubber in the manufacture of tires and a number of other rubber products.

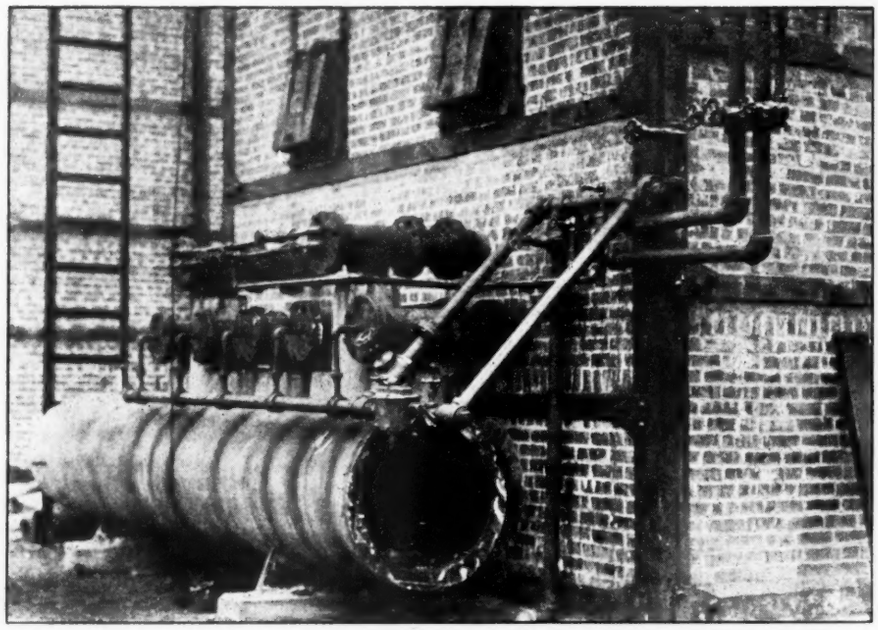
It was taken over about a year ago by a company formed to operate the Leamon cracking process. Construction of Leamon cracking units has been proceeding since that time and the other parts of the refinery aside from the units connected with the Leamon process are not operating at present.

The Leamon unit, as constructed at the Interocean plant, consists primarily of a Foster Pipe still, a "tar drum," a cooker or catalytic chamber, a bubble tower, three heat exchangers, a condenser, a supply tank and a small pump house housing the pumps which charge the oil through the system and control the temperature of the bubble tower, hence the end point of the product, by pumping cold oil over the top of the tower.

Run on California Gas Oil

NO crude is being run at the Interocean plant and the material on which the cracking process operates is California gas oil. This does not mean, in this case, that the charging stock itself has any greater anti-knock value than gas oil from any other source. The arrangement and design of the pipe still in this insulation is unusual.

In the first place, in order to make unnecessary the construction of a tall stack for the pipe still battery, each still is equipped with a Ljungstrom air preheater, which is a combination of preheater and forced draft inducer. This device which is in form a vertical steel tube, contains a rotor operated by a motor and two motor operated fans revolving on the same axis. The two fans run on a horizontal shaft and the rotor, whose diameter is just sufficient to allow it to rotate horizontally within the tube, runs on a vertical axis.



The firing front of one of the pipe stills at the Interocean plant under construction. The two oil burners are the highest with the five gas burners below. The double line gas feed arrangement is seen at the right. At the extreme right of the gas header is seen the solenoid valve which automatically lets in gas through the right hand slanting line when the gas volume going through the other line drops.

The air, drawn in from the atmosphere by one fan, is forced downward countercurrent to the hot gases of combustion being sucked out of the furnace by the other fan, so that the air for combustion goes into the furnace at a temperature of around 500 F. With this device, a short steel stack for each still, comparatively inexpensive, serves the purpose.

Each still is fitted with seven burners, five gas and two oil. In bringing the still up to temperature, the oil burners are used. After the system is in full operation the production of fixed gas in the process itself is sufficient to keep it operating.

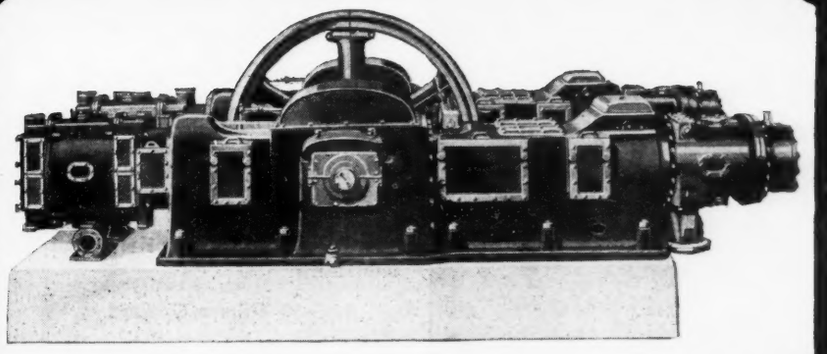
How one Texas refiner made over his equipment and operating schedule to allow him to operate profitably on crude from another, but available source, after the crude on which the plant was originally designed to run played out, will be told in another of Mr. Truesdell's articles in the June 30th issue of National Petroleum News.

Automatic Feed for Gas

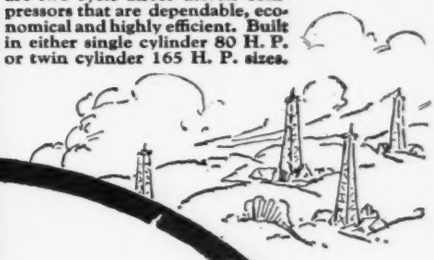
THE gas is distributed to the burners by means of a main header fed by two lines. One of these flows constantly, the other is shut off most of the time. The second or auxiliary line is operated automatically by means of a solenoid. When the supply of gas coming through the main feed line drops off so that it would not be sufficient to keep the still up to temperature, the solenoid valve opens, admitting more gas to the burners through the second line.

The charging stock is fed to the pipe still in the ordinary way by means of a Quimby screw pump, the operation of which is on the principle of an auger. However, because any cracking of the oil in the liquid phase is not wanted in this process, the method of handling the oil and vapors from the pipe still is unusual. Entering at the bottom, the charging stocks goes through 10 rows of tubes with five tubes in a row. In this passage it is heated up to around 700 or 750 F.

From the top row of these tubes, the hot oil and vapors pass into the tar drum. This is a vertical insulated drum in which the unvaporized portions of the oil drop to the bottom, to be removed periodically through the opening and



Bessemer Type Ten Compressors are two cycle direct driven compressors that are dependable, economical and highly efficient. Built in either single cylinder 80 H. P. or twin cylinder 165 H. P. sizes.



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THE best thing any Bessemer Compressor does is *perform*, and either type a type ten or a four-cycle Bessemer will give any compressor user something to think about when it comes right down to efficient compression and uninterrupted service.

The operating efficiency of any direct-driven compressor unit depends, 1st, upon the dependability of full power delivery to the compressor piston, and 2nd, upon the volumetric efficiency of the compressor cylinders themselves.

In any Bessemer compressor, both of these factors are attained to a degree unequalled by any other unit of a similar type. The power cylinders consistently deliver a steady flow of their full rated power with a remarkable operating and maintenance economy. The compressor cylinder is the new, improved Bessemer type used on all Bessemer direct driven compressor units. These cylinders have a compression efficiency unequalled by any other cylinder and they retain their high initial volumetric efficiency without repair or replacement during remarkably long periods of service.

Not only is the actual operating efficiency of these direct driven units far ahead of anything of their kind, but they maintain this remarkable efficiency over long periods of uninterrupted service. They are built for years of low-maintenance service, and are constantly proving that Bessemer Compressor performance can be depended upon to be performance *plus!*

THE BESSEMER GAS ENGINE COMPANY
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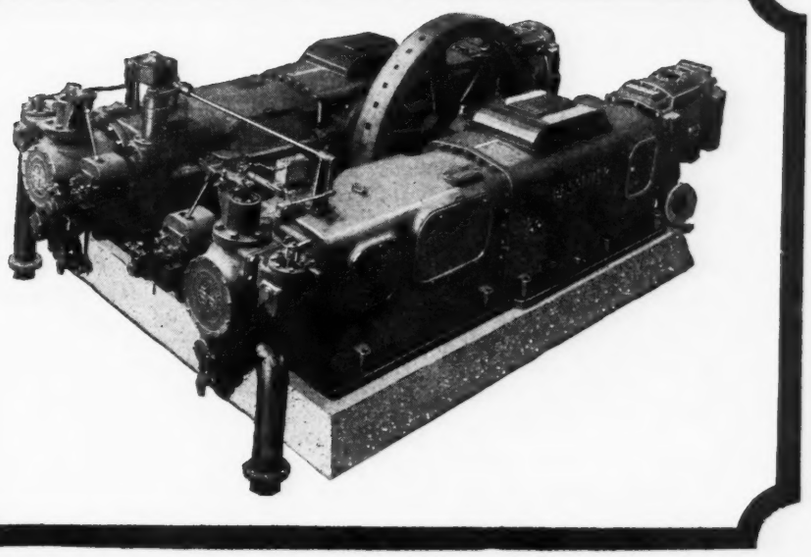
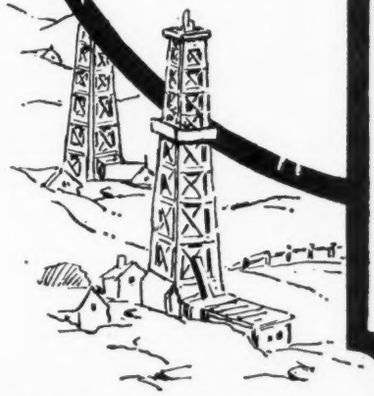
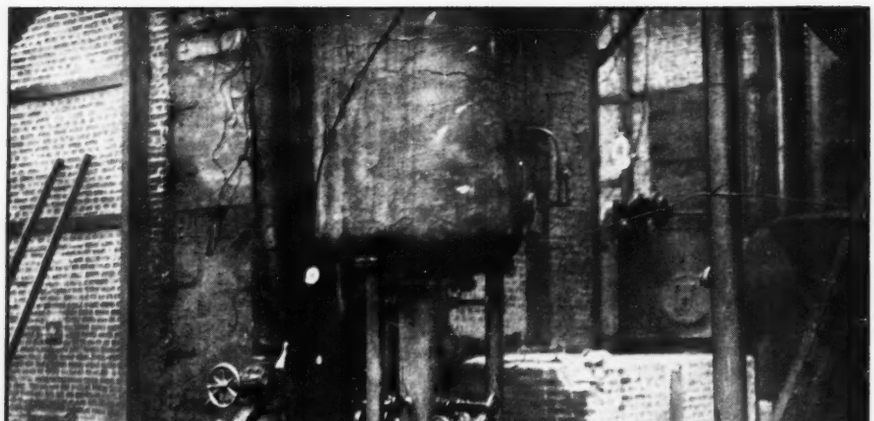
Bessemer Type FC Compressors are of the four cycle direct driven type that are unequalled for operating economy and efficiency. They are unequalled where four cycle units are desired.





BESSEMER COMPRESSORS



The tar drum on one of the Interocean pipe stills. This drum is a separator in which the heavy ends drop out to prevent their cracking when superheated in the upper tubes of the pipe still.

closing of a valve operated by a liquid level float control.

Thus no cracking whatever takes place in the liquid phase, the temperature to which the oil is raised before passing into the tar drum being below its cracking temperature. The system operates throughout at atmospheric pressure, or substantially so.

The vapors from the top of the tar drum, instead of passing to a condenser, are led back into the upper part of the pipe still. They pass through four rows of tubes and the roof tubes, the hottest part of the still, where they are superheated to about 1075 F.

Course of Vapors

FROM the top of the still, the vapors pass through a vapor line, into the cooker, a horizontal tank. This cooker contains the catalytic agent which Mr. Leamon says accomplishes the conversion of the vapors and which is one of the secrets that he guards. Passing from the cooker at high temperature, the vapors pass through the heat exchangers. There are three of these, Hope Engineering Co. vapor to liquid type 30 inches by 18 feet. Two of them are always running in series while the third is being cleaned out.

In the heat exchangers the vapors give up part of their heat to the incoming charging stock being pumped from the supply tank to the pipe still.

From the heat exchangers the vapors go into the bottom of a Koch & Winkler bubble tower. The crude distillate or yellow naphtha, as it is called at this plant, is taken off the top of the tower, the endpoint being regulated as desired by pumping in cold naphtha over the top of the tower.

The vapors from the top of the tower pass through a Southwestern water cooled condenser and thence through running lines and lookboxes in the tailhouse to yellow naphtha storage. The reflux from the bubble tower is fed back into the pipe still with the fresh charging stock at whatever rate is desired.

The uncondensed gases passing out of the condenser are picked up by riser pipes under vacuum from the lookboxes, led to a header and pass through a gasoline reclaiming plant which takes out all the gasoline. The stripped gases then pass to the pipe still furnaces for fuel.

It is necessary to rerun the yellow naphtha to produce finished Stellarene. This is done in shell stills equipped with bubble towers. Another catalytic, the identity of which is also kept secret by the inventor, is placed in the stills during the distillation and this agent removes the gum forming properties of the product, according to Mr. Leamon. The finished gum-free product is fractionated as desired by the bubble towers.

Did Away With Sulfuric Acid

THE necessity of finding a chemical that would remove the gum forming constituent was a problem to Mr. Leamon because treatment with sulfuric acid to accomplish this result is impossible. His fuel is made up almost entirely of naphthene hydrocarbons which are soluble in sulfuric acid.

While the catalytic treatment during redistillation makes finished Stellarene satisfactory from the standpoint of gum-forming tendencies, it does not give it a water white color. Although the Federal Specifications Board has abolished the color requirement on gasoline to be bought for government use, and color is coming to be recognized more and more widely as an unnecessary requirement, nevertheless Mr. Leamon has done a great deal of work toward finding a method of treating Stellarene to make it water white.

He believes he has solved this problem by the installation of a plant for treating it with silica gel, although the plant has not yet treated any of the gasoline. Laboratory tests with the silica gel treatment produce Stellarene having a No. 18 color, which is better than the No. 16 color demanded by the Federal Specifications Board before they dropped this requirement entirely.

The silica gel plant is practically a plant for the filtration of Stellarene by the percolating method. The filtering material is placed in a cone bottomed tank like the percolating filters used in the decolorizing of lubricating oil. The stuff is to be filtered upward through the gel, not downward, and the method of doing this is similar to that used in filtering dilute lubricating oils at the plant of the Tiona Refining Co. at Clarendon, Pa., which was described on page 73 of the Aug. 5, 1925 issue of National Petroleum News.

Filters Upward

THE reason for filtering the Stellarene upward through the filtering medium is doubtless to prevent the tendency to channel which is displayed by any light non-viscous material. This was the reason for adopting the upward method at the Tiona refinery, inasmuch as the stock, highly diluted with naphtha, was so thin it would run in streams down through the clay so that only a very small percentage of the adsorptive surface of the clay was effective.

The silica gel used at the Interocean plant is in finely divided form. Of course, the travel of the Stellarene upward through the filter tends to lift the gel with it. Carrying over of the gel is prevented by a fine screen on top of the filter.

Before using, the gel is given a light spray with sulfuric acid. After use it is revivified in about the same manner as is fullers earth used in percolating filters. It is dumped out of the filter onto an automatic conveyor which dumps it into a muffle furnace fitted with baffles through which it trickles by gravity, coming in contact with flames from a furnace.

This treatment burns out the hydrocarbons and leaves the gel about as effective as before using. It is expected to treat about 7000 gallons of naphtha to one charge of silica gel.

As soon as the construction of the four units now building is completed it is planned to build eight more immediately and there is space laid out for the construction of 32 more eventually. Each unit is designed to turn out 250 barrels of Stellarene a day.

Makes Gas From Gasoline

AN interesting feature of this refinery is a gas plant that makes gas from gasoline for use in laboratory burners and similar work. This system is manufactured by the C. M. Kemp Manufacturing Co., Baltimore. The chief feature of the installation is that it mixes the gas with air as made and delivers it to the burners as a combustible mixture, making unnecessary the introduction of any air at the burner.

The installation consists of a circular, horizontal air meter operating two mercury pumps, a steam heated vaporizing chamber, a condensate tank and a "backfire preventer."

The shell of the meter is kept nearly full of water. The inrush of air, which

at this plant is under about half a pound pressure, rotates the metering mechanism which is connected to the mercury pumps by means of cam and lever. The action of the mercury pumps delivers gasoline from a storage tank onto a hot plate in the vaporizing chamber, which is heated by live steam.

The air from the meter constantly sweeps through the vaporizing chamber, picking up the gasoline vapor. Air and gas mixture then flow through a sunken condensate tank where the entrained gasoline at the heavy ends drop out, to be drawn out periodically as the liquid reaches a predetermined level. From the condensate tank the gas-air mixture passes to the backfire preventer.

Inasmuch as the gas-air mixture is combustible as it travels through the pipes, the backfire preventer is installed in the line to snuff out any fire which might start in the pipes. A cut is shown of this device, which is really a shutoff valve closed by the melting of a fusible bridge in case of fire.

The gas enters the device at K, according to the manufacturer's description, passes around the valve D to C, where a large surface is provided for it to pass through the disc B, which is a metal plate full of very fine perforations. Then the gas flows downward and under the deflector L to the gas outlet, J.

Description of Backfire Preventer

THE valve D is seen maintained off its seat E, and with a compressed spring at its top. A pin driven across holds against the upper end of this spring. The valve stem I, passes through the perforated disc B, and rests on a bridge, G. The bridge is made of metal fusible at comparatively low temperature and is attached to a plug M, which screws into a threaded flange made in the center of the concave bottom H. The bottom H, is made of sheet metal thin and light compared with the body and top of the backfire preventer.

In case of an explosion the yielding bottom H, is forced outward, carrying with it the fusible bridge G. The valve stem thus losing its support, the valve D, is quickly seated by its own weight aided by the compressed spring and the pressure of gas above the valve.

In case of ignition of the gas but no explosion, the heat from the burning gas quickly melts the fusible bridge, thereby enabling the valve to seat.

The gas producing installation, which cost about $525, furnishes a very hot and economical flame for laboratory use, according to Henry R. Gundlach, chief chemist. There is very little danger of a fire reaching the backfire preventer, according to Mr. Gundlach, because each burner is a flame arrester in itself.

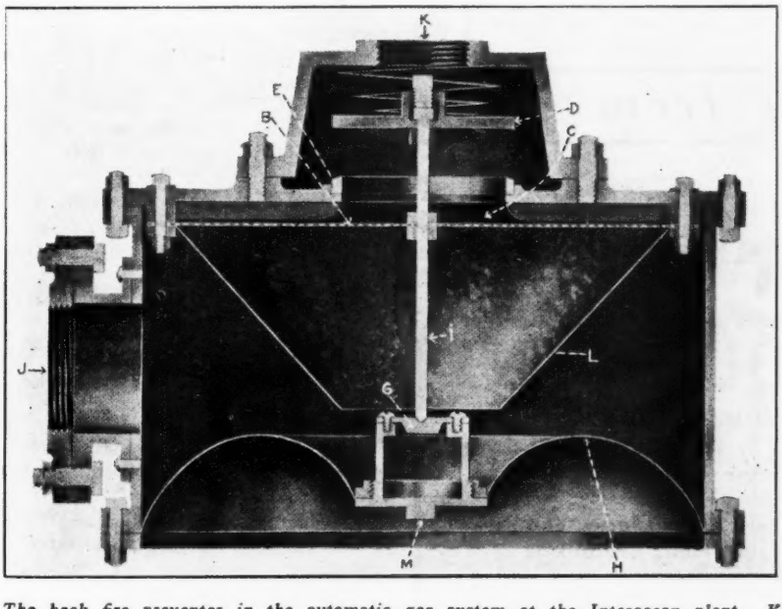
The original burner used with this system was made by plugging a piece of pipe with a steel plug about three quarters of an inch long in which a number of slots had been laboriously sawed lengthwise. The purpose in the burner was to make of the plug a flame arrester to prevent the fire from travelling backward, feeding on the combustible mixture, to the gasoline tank. The slots were made so fine that the flame could not get through them.

The plug now placed in the burner is much simpler and cheaper, being simply a piece of fire clay molded with a number of fine holes through it. This is equally effective.

This machine is able to operate successfully on gasoline or heavy naphtha, the feed of gasoline into the vaporizing chamber being easily regulated by moving a lever, and also the proportion of air to be mixed.

According to Mr. Gundlach, it is conceivable that this air-gas mixing machine might be an economical installation on a large scale to handle natural gas for firing boiler and still furnaces, because it can be regulated exactly to give the most economical mixture of air and fuel, which is difficult if not impossible where the air for combustion is admitted to the furnace at the burner.

He says the system is adaptable to heating grease kettles and the like because the gas will burn in coils inside the kettle.



The back fire preventer in the automatic gas system at the Interocean plant. K is the gas inlet, D is the valve, C the opening for gas, B finely perforated metal plate, L deflector, J gas outlet, E valve seat, I valve stem, G fusible bridge, M plug, H thin concave bottom.

Manufacturer Helps Jobbers Sell Lubes

Staff Special

CLEVELAND, June 18

SALES helps for jobbers and incidentally dealers, form a big part of the promotion campaign for Brown's-Oyl, the special Ford car lubricant manufactured by the R. J. Brown Petroleum Co., St. Louis. These helps consist of advertising for which the Brown company pays but on which the jobber's name appears, assistance from a specialty salesman in the employ of the Brown company during the introduction of Brown's-Oyl in any territory, and free sample service during the introductory period with the Brown company supplying the sample free.

More than a year ago the Brown company started an intensive campaign for national distribution of their Ford oil. They granted exclusive territories to jobbers for a year's time with the contract automatically renewable for five years unless notification of cancellation was made not less than 30 days before the first year expired, and also renewable for another five years at the end of the six-year period.

As soon as a jobber has signed a contract the Brown company, using the jobber's name, starts a newspaper advertising campaign in the territory, the volume of space used depending on the size of the territory. Brown pays for all the publicity.

Colorful signs bearing the jobber's name are supplied free. These are of two sizes, one 12 by 24 inches for tacking to boards and the other 22 by 34 inches and framed for use at service stations. Decalcomania for attachment to windows or windshields are supplied free. These are 2½ by 6 inches.

Booklets on Ford car lubrication are given the jobber for distribution to Ford car owners. On these are printed the jobber's name. Slides for display in motion picture theaters also are made available to the jobbers in case they should wish to advertise in that manner.

Direct mail advertising is used wherever it would be found to work to good advantage.

NILES, MICH.—C. J. Huff, who opened a service station here recently, gave away on the opening day a one-pound can of cup grease for the car owner and roses and carnations for the ladies. Mr. Huff reports this was successful. The station is in red and yellow, and is located on state highway M 58.

Edward Forged Steel Valves

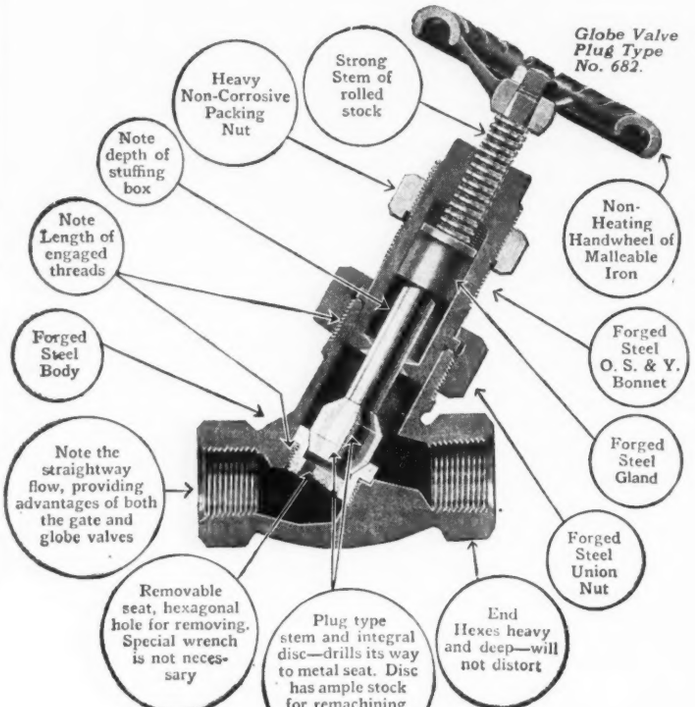
—***while*** designed for severe service (pressure up to 500 lbs. and intermittent temperatures to 1100° F.) —ruggedly built—and of high grade construction —***yet*** they are so low in price (because of quantity manufacture) that they can economically be used on any line.

—therefore why not standardize on Edward Forged Steel Valves—write for catalog and prices.

The Edward Valve & Manufacturing Co.

Main Office and Works, East Chicago, Ind.

Maintenance Eng. Corp., 1802 Conti St., Houston, Texas
Power Plant Equip. Co., 123 W. 1st St. Tulsa, Okla.


Globe Valve Plug Type No. 682.
Heavy Non-Corrosive Packing Nut
Strong Stem of rolled stock
Note depth of stuffing box
Note Length of engaged threads
Non-Heating Handwheel of Malleable Iron
Forged Steel Body
Forged Steel O. S. & Y. Bonnet
Forged Steel Gland
Note the straightway flow, providing advantages of both the gate and globe valves
Forged Steel Union Nut
Removable seat, hexagonal hole for removing. Special wrench is not necessary
Plug type stem and integral disc—drills its way to metal seat. Disc has ample stock for remachining if necessary
End Hexes heavy and deep—will not distort

—prompt shipment from stock

BETHLEHEM
WAX PLANT EQUIPMENT

Filter Presses — ***Wax Moulding Presses***
Wax Distillate Chilling Machines — ***Scale Wax Cooling Drums***
Wax Testing Presses — ***Paraffine Wax Sweater Plants***
Complete Wax Plants designed and built
Pumps, Stills, Towers, Condensers and other Oil Refinery Equipment
Oil Burning Systems — ***Complete Power Plant Equipment***

BETHLEHEM SHIPBUILDING CORPORATION, LTD.
BETHLEHEM, PA.
GENERAL SALES OFFICES: 25 BROADWAY, NEW YORK CITY

S. O. California Employes Get $28,000,000 Stock

CLEVELAND, June 18.—The Standard Oil Co. of California last week distributed 481,976 shares of its capital stock among 12,000 employes. The stock, which had a market value of $28,000,000, represented a saving of $15,750,000 in the four years and seven months ended Dec. 31, last, and a contribution or bonus by the company of $7,750,000. To the sum of these amounts was added $2,300,000 received by the stock saving plan trustees through dividends and the sale of rights, bringing the total investment up to $26,000,000.

The stock savings plan was put into effect June 1, 1921, and was to have run five years. It was suspended Dec. 31, last, because of the merging of the Standard of California and the Pacific Oil Co. Employes of one or more years' service were permitted to subscribe up to 20 per cent of their salaries. Subscriptions were deducted monthly from their salaries. The average deduction was 17.54 per cent, the company reported. Of those eligible to participate, 85.77 per cent took part in the plan.

In a statement issued in San Francisco, K. R. Kingsbury, president of the Standard Oil Co. of California, said:

"The result of this great experiment in thrift and in stock purchase by employes is very gratifying to the management of the Company. Approximately 12,000 of our employes are now stockholders. The long period of saving has revealed in Standard Oil personnel a fine spirit and determination of which we are all very proud."

Bureau of Advertising Compiles Estimates

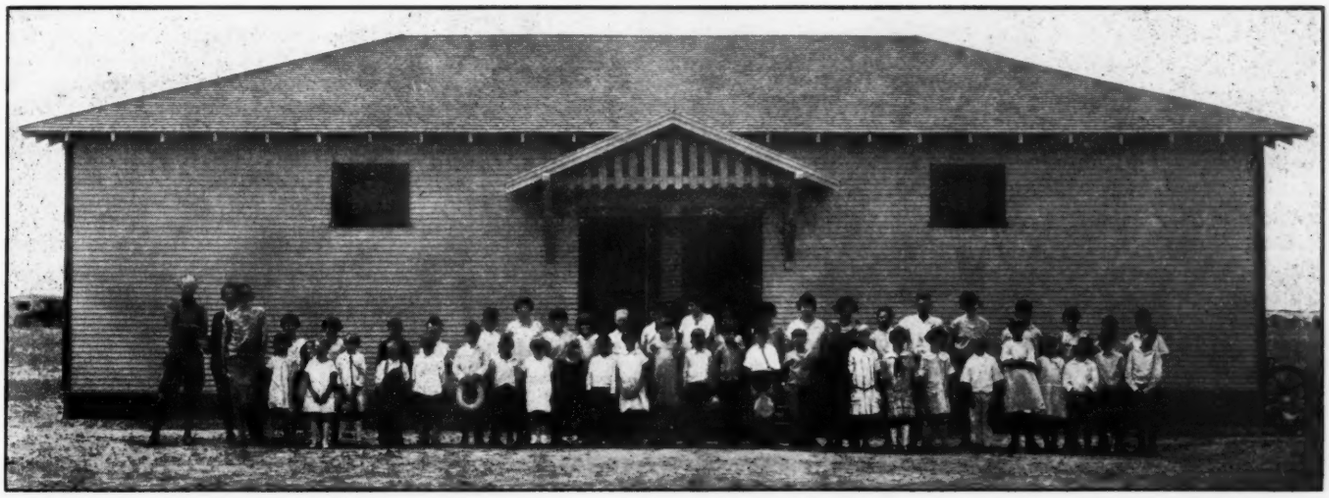
Ninth place among the 227 largest newspaper advertisers in this country during 1925 is held by the Standard Oil Co. of Indiana, which expended approximately $1,275,000 in newspaper advertising alone, $525,000 more than any other oil company, according to estimates compiled by the Bureau of Advertising of the American Newspaper Publishers Association. Second largest newspaper advertiser among oil companies was the Standard Oil Co. of California, which expended approximately $750,000.

Other oil companies listed are, in order of their importance: Standard Oil Co. of New Jersey, $350,000; Union Oil Co. of California, $300,000; H. L. Doherty & Co., $250,000; Associated Oil Co., $200,000; General Petroleum Corp., $150,000; Tide Water Oil Corp., $125,000; Vacuum Oil Co., $110,000; Shell Co. of California, $100,000; and Paraffine Companies, Inc., $95,000.

The largest expenditure during 1925 in newspaper advertising was made by the Ford Motor Car Co., which totaled $2,500,000.

School, Hospital and Home Life Mark Big Lake Field Development

By Paul Wagner
N. P. N. Staff Writer



School in Big Lake Oil Co.'s camp at Texon, Texas.

HOW the Big Lake field came to be found and developed; how its prolific yields of high grade petroleum influenced wildcatting through vast areas of West Texas; and how millions of dollars are still being expended in the effort to find other fields of similar magnitude, all these phases of oil history have been previously told in word pictures, fact statements and detailed statistics.

It is the purpose of this article, aside from presenting a few necessary and vital field statistics, to picture the transformation of a dreary desert spot into an oil country settlement, where schools, hospital facilities and modern home life have taken the place of barren ground parched by the burning rays of an overbright sun.

The transformation includes both the oil field itself and the town of Texon, since the settlement mentioned has been built up in the midst of the developed area, onyl a few hundred yards from the location where the discovery well was drilled in 1923.

There may be found, in addition to the hospital provided for the use of employees, a modern school in charge of a teaching staff paid by the Big Lake Oil Co.; and a Sunday School building where Levi Smith, president of the Big Lake company, himself superintends the spiritual training of the youngsters in the camp.

Fifty Children In School

NEARLY 50 children regularly attend the school provided for them by the Big Lake Oil Co., an accompanying picture showing them grouped in front of the building at the beginning of the term last fall. Standing beside the two teachers at the left of the pcture is M. R. Williams, assistant secretary of the company. An equal number of youngsters and some of their parents regularly attend President Smith's Sunday School.

Naturally, a settlement that provides such a sizable representation of Young America in its schools includes a large number of grown-ups. These are the workers carrying ahead the development of the field, and their wives. Dormitories and modern cottages handled on a nominal rental basis have been provided for them, the company looking after their comfort carefully in the upbuilding of the camp.

Upwards of a hundred cottages may be seen in a drive through the streets of Texon, which is operating headquarters for both the Big Lake Oil Co., and the Texon-Group 1 interests, which last mentioned companies control that part of the field not owned by the Big Lake.

Although the Texon-Group 1 interests discovered the field, they sold 16 sections, embracing fully three-fourths of the field's area, to the Big Lake Oil Co., after the original well came in, since that time operating the property not included in the Big Lake deal.

The Texon-Group 1 interests also maintain extensive camp facilities at Texon; and the Marland interests, operating elsewhere in the general territory, have somewhat smaller camp facilities than either of the others at Texon.

Housing facilities have been laid out in such manner as not to place them in too close proximity to warehouses, shops and other buildings where the work of the field is carried forward, yet conveniently near the work of the employees.

The town which boasts a total population of perhaps 1800, is a railroad point on the Kansas City, Mexico & Orient railroad, but the postoffice serving the settlement is at Best, a few miles east.

The contrast of this well-kept settlement with the half dozen buildings found at Texon as late as the fall of 1924 can be properly made only by one who has been there, both then and now. It is pertinent to note, however, that at the time first mentioned the half dozen buildings and six or eight derricks observed had for their background only the barren flats of a desert area, where mesquite, greasewood and a thorny variety of charparral constituted the sole vegetation.

No Floating Population

THERE isn't much else in the way of vegetation now, but the inhabitants of a thriving little city are not worrying one bit about that. They are living decently in an oil settlement where there is no floating population, where disreputable camp followers have always been a thing unknown; and where the youngsters are getting training that equals that provided in most any town of similar size in the country, perhaps better.

Big Lake Oil Co., alone, has produced more than 9,000,000 barrels of the total crude oil recovery taken out of the field since its discovery in 1923. The total cumulative production, amounting to about 14,700,000 barrels, includes more

Street in Texon, showing cottages occupied by oil company employes.

SISTERSVILLE TANKS
MADE IN THE HEART OF THE OIL COUNTRY

A Winning Hand

WRITE FOR THIS SERIES OF FOLDERS

Write today for this series of three folders individually describing Sistersville Filling station, fuel oil and oil field steel storage equipment. If you are a Sistersville representative wire us at once stating how many of these folders you can use in your territory. They are just off the press. We still have some limited open territory and will correspond with interested manufacturer's agents.

A Complete Line Of High Quality Steel Storage Tanks

Sistersville Tanks range from 200 gal. to 26,000 gals. in welded, standard riveted-welded and extra strong riveted-welded construction. These tanks are built to last a lifetime and are fully guaranteed.

Filling Station—Bulk Station—Pressure—Oil Field —Fuel Oil—and All Liquid Steel Storage Equipment.

SISTERSVILLE TANK & BOILER WORKS
SISTERSVILLE W. VA.

than 5,000,000 barrels produced by the Texon-Group 1 interests.

With the exception of four wells not now on production, which yielded slightly more than 50,000 barrels total, the accompanying table shows the phenomenal recoveries made by the wells of the Big Lake Oil Co.; the May 20 figures indicating daily yields and the April 1, 1926 figures showing cumulative production per well up to that date.

The high mark of the Big Lake company's production was reached on April 23, last, when 58 producing wells yielded 25,344 barrels daily. This compares with fluctuations around the 22,500 barrel daily level at the present time. The Texon-Group 1 interests have been recently averaging about 10,000 barrels daily from their wells.

BIG LAKE OIL COMPANY PRODUCTION

Well No.	May 20, 1926 Production	Total Prod. to 4-1-26
1	30.00	50,532
2	5.00	5,581
4	30.00	31,685
8	40.12	43,545
9	444.44	412,144
10	435.00	231,566
11	240.00	770,643
12	100.00	276,469
13	315.00	526,522
14	177.52	113,515
15	653.00	351,612
16	389.28	246,603
18	294.44	593,747
19	409.24	401,871
20	74.88	183,208
21	430.00	74,187
23	200.00	344,189
24	200.00	104,509
25	240.00	163,529
26	370.00	180,708
27	185.00	80,032
28	20.00	32,053
30	115.00	38,867
31	214.64	69,036
32	250.24	65,345
33	95.00	28,892
34	135.00	75,124
35	358.68	73,335
36	400.00	80,211
37	389.28	36,734
37A	289.84	9,129
38	499.40	350,948
39	394.28	269,433
40	369.40	129,070
41	648.88	119,487
42	574.04	262,773
43	200.00	25,566
44	210.00	41,928
45	188.44	35,707
46	300.00	95,846
47	500.24	132,447
48	1084.88	163,559
49	1003.44	172,954
50	192.40	26,263
51	2423.12	.....
52	22.50	1,610
53	80.00	3,895
54	420.00	105,827
55	259.32	11,409
56	570.00	4,976
58	1671.48	53,236
59	1233.72	8,818
60	733.68	14,691
61	104.88	9,777
62	409.36	13,987
63	479.16	.....
64	968.44	.....
65	144.88	.....
66	.....	.....
67	159.76	.....

CONNEAUT LAKE, PA.—The Conneaut Lake Roller Mills, distributor of Gulf Refining Co.'s products, is installing new gasoline equipment for Joseph M. Dickey at the entrance of Midway drive here.

ELDRED, PA.—The Chicago Bridge & Iron Co. has completed the installation of a 10,000 barrel storage tank equipped with the Wiggins floating roof on the property of Mix Creek Oil Co. here.

Magnolia's Runs Gain, May Over April

HOUSTON, June 18.—Magnolia Petroleum Co., pipe line department, announces from Dallas headquarters the following crude oil runs for May, which are shown in comparison with April:

	April	May
Hewitt-Graham	92,902.35	89,702.02
Healdton	231,839.39	259,154.79
Cushing	201,909.48	158,013.71
Yale	72,322.64	74,650.30
Cement	20,500.15	21,131.75
Duncan	50,364.71	47,916.78
Augusta	38,830.90	39,609.38
Walters-Beaver Creek	8,193.77	8,103.33
Burbank	48,257.55	50,522.55
Wewoka	522,148.11	450,962.01
Bristow	.....	.....
Total Okla.-Kans.	1,287,269.05	1,199,766.62
Thrall	1,458.32	1,481.59
Electra	106,166.78	108,059.32
Burkburnett	81,859.81	83,682.78
Henrietta	7,181.87	7,571.45
Corsicana Heavy	8,498.42	8,241.14
Corsicana Light	21,399.63	19,288.96
Comanche	23,185.05	23,292.41
Olden	24,060.58	23,532.98
Stephens	15,973.83	14,388.80
Coleman	398.04	575.92
Mirando	115,036.36	106,697.13
Mexia-Wortham	637.48	41,719.56
Luling	205,417.86	217,702.70
Archer	63,152.99	62,401.43
Lytton Springs	105,163.33	99,607.69
Iatan	8,840.66	10,971.30
Panola	1,376.32	.....
Panhandle	66,505.04	147,463.49
Total Texas	856,312.37	976,678.65
Haynesville	5,943.90	6,608.21
Bull Bayou	36,940.71	37,495.03
Cotton Valley	21,691.60	23,626.48
Pine Island	.....	9,639.57
Total Louisiana	64,576.21	77,369.29
El Dorado Light	29,506.65	76,019.80
East El Dorado	2,571.38	2,519.38
Smackover	113,511.65	115,968.23
Total Arkansas	145,589.68	194,507.41
GRAND TOTAL	2,353,747.31	2,448,321.97

OKLAHOMA-KANSAS

Report for May, 1926		Daily Av.
Runs	1,199,767.00	38,702.00
Shipments	1,476,204.00	47,619.00
STOCKS	4,593,255.00	.....

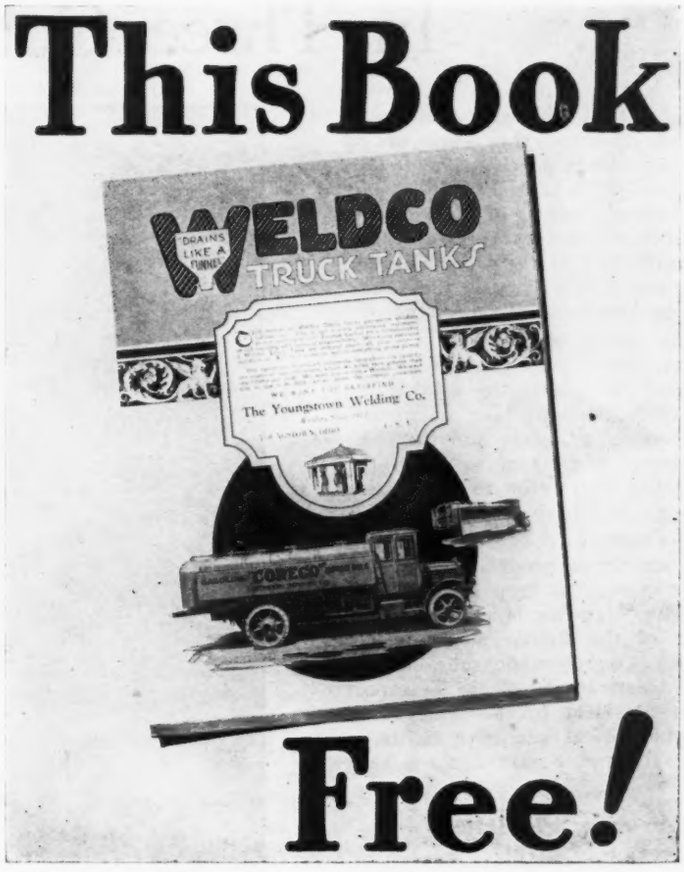
TEXAS

Wichita, Wilbarger, Archer		
Runs	254,144	8,198
Shipments	248,444	8,014
Petrolia		
Runs	7,571	244
Shipments	6,787	219
Eastland & Stephens		
Runs	61,214	1,975
Shipments	172,586	5,567

CLEVELAND, O.—Walter E. Brown, who was formerly assistant advertising manager of the Billings-Chapin Co., Cleveland paint manufacturer, has joined the advertising agency of John S. King Co., Inc., as production secretary.

SPRINGFIELD, MINN.—Springfield Oil Co. has installed the Burroughs system of bookkeeping and has bought a new Remington cash register. It has also put into service a new International one-ton truck and truck tank, according to C. E. Schmid, manager.

MUSKOGEE, OKLA.—The Vaughan Oil Co. has just installed a 14,000 gallon four-compartment tank for lubricating oil storage, according to A. J. Vaughan, president.



Write today for your free copy of our latest 1926 catalog showing the complete line of custom-built Weldco Truck Tanks—the tank with the exclusive funnel drain. Made in all capacities from 300 gals. for Fords to 2000 gals. for heavy duty service.

The Youngstown Welding Company
Welders since 1912
Youngstown, Ohio, U. S. A.

American Operating Methods

Are explained in a concise, practical way in OIL FIELD PRACTICE, by Dorsey Hager, petroleum geologist and engineer.

It is written for the business man, the oil field driller and operator, the geologist and the investor.

You may obtain this book containing 310 pages and 98 illustrations by mailing check for $3 to—

National Petroleum News
820 Caxton Building **Cleveland, Ohio**

Woman Standard Oil Official Active In Three Companies

ATTENDING business conferences and directing the work of oil companies in which she holds executive positions constitute only a part of the accomplishments of Mrs. Norma M. Hancock, of Shreveport, La., operating vice-president of the Dixie Oil Co., Inc., producing subsidiary in the southwest of the Standard Oil Co. of Indiana.

It is no uncommon experience, associates say, for her to get out on the ground and check over the data of the geological department; take active part in the purchase of leases and the location of tests; and, then, to finish the job by going directly on to the derrick floor when a well is about to be finished.

As if her duties as operating vice-president of an active producing company were not enough to keep her time occupied, Mrs. Hancock is also secretary-treasurer of the Southern Crude Oil Purchasing Co., domestic subsidiary of the Pan American Petroleum Transport Co.; and president of the Omega Oil Corp., which owns extensive rights to fee minerals and royalties throughout the southwest.

Here is the only woman who can lay claim to being or ever having been an active executive with any Standard Oil company or subsidiary campanies. She is Mrs. Norma M. Hancock, of Shreveport, La., and she is operating vice president of the Dixie Oil Co., Inc., Shreveport, producing subsidiary in the southwest of the Standard Oil Co. of Indiana.

Mrs. Hancock is also secretary-treasurer of the Southern Crude Oil Purchasing Co., domestic subsidiary of the Pan American Petroleum & Transport Co.; and president of the Omega Oil Corp., which owns extensive rights to fee minerals and royalties throughout the southwest

An Agreeable Hostess

DESPITE the demands of business, in which she has taken a keen interest for years, Mrs. Hancock finds time to be an agreeable hostess at her handsome home in the Glen Iris suburban section of Shreveport, where her entertainments are described as exceedingly delightful social events.

Easily the outstanding feminine figure in the oil industry today, Mrs. Hancock has reached her present executive status while still in her thirties. She has been connected with the petroleum industry since a girl barely out of her 'teens, taking an active part in the formation of the Dixie Oil Co., Inc., prior to the time that it became an arm of the Standard Oil Co. of Indiana.

She located in Shreveport about eight years ago, making the trip from Chicago, where she had been confidential secretary to President Fred H. Wickett of the Dixie, now chairman of the board of directors of the Pan American Petroleum & Transport Co. She has always been active in the management of the Dixie's operations and on February 1, 1926, was elected its operating vice-president at a meeting held in Chicago.

Her choice in this regard is said to be the only instance on record where a woman has ever been elected to an active official position charged with duties of management in a Standard Oil organization. This is attributed to recognition of keen business judgment, intuition and ability.

Mrs. Hancock's position in the organizations in which she is represented on the executive staffs is unique, in that she enjoys the personal acquaintanceship of virtually every man and woman in each of the several organizations.

Her solicitude for the personal welfare of each and every one of the 3500 employees connected with her various companies has earned for her a lasting devotion, which has caused her to be referred to in these organizations as "The Heart of Dixie."

It has been said of Mrs. Hancock that she is so considerate of those with whom she is associated that never a baby arrives in any of the homes of the organizations with which she is identified but the little fellow's crib contains some souvenir for which she is responsible.

MRS. HANCOCK has the reputation of being acquainted with more head executives in the petroleum industry than any other woman; and she is widely known in the financial centers of the north and east, "sitting in" on money conferences of far-reaching important to the industry.

Her financial position and operating recognition, associates say, have been brought about by constant and incessant devotion to the ever present tasks confronting an oil executive; she is the first in the office of a morning and the last to leave in the afternoon, frequently keeping the telephone busy on oil affairs from her home at night.

Mrs. Hancock is a member of the Shreveport Country Club, and perhaps one or two other social organizations.

The Holmes-Manley *Cracking* Process

Evidence of our faith in this process and our patent protection is reflected in our large investment. THE TEXAS COMPANY has in operation 79 Holmes-Manley units

The Licensee receives:—

1. *A Proven Process*
2. *Complete Technical Service*
3. *The Benefit of Future Developments*

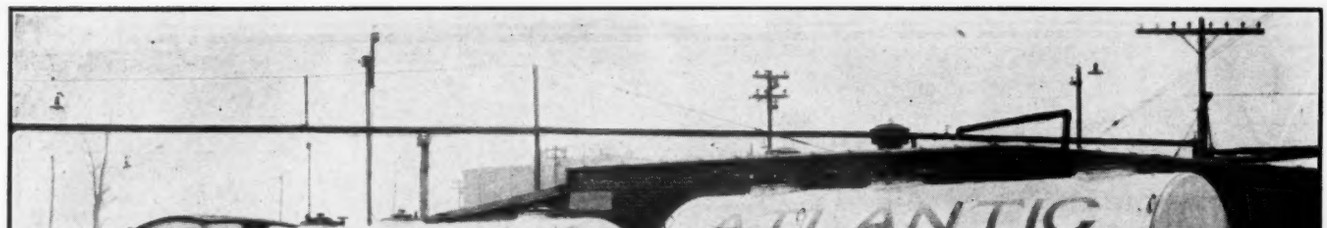
Licenses Granted by

THE TEXAS COMPANY, U. S. A.

Apply to

R. C. HOLMES, *President*

17 Battery Place, New York, N. Y.



Type of four-wheel trailer, with 1500-gallon tank, used by the Atlantic Refining Co. in Philadelphia and vicinity deliveries.

Tank Trailers Provide Economical Hauling For Big Fuel Oil and Gasoline Dumps

By H. C. Fruehauf
Vice-President Fruehauf Trailer Co.

ONE important factor in reducing the cost of gasoline and of fuel and lubricating oils has been the general adoption of tank bodies in motor transportation. While economical hauling of gasoline and oils calls for loads up to the limit which the motive power used is able to handle, the size of these loads is necessarily restricted by the limitations of the state highway laws. The majority of states recognize that a gross weight of more than 22,400 pounds on a single axle is unsafe from the standpoint of highway preservation. Oil companies have met these restrictions by distributing their loads over additional axles through trailer, which make it possible to double the load without increasing the motive power used.

The Fruehauf Trailer Co. has recently collected statistics which prove that a four-wheel trailer with tank body, coupled to a truck carying a tank of equal size, adds only 11 per cent to the cost of operating the combined unit, although the payload per trip is double the load that can be carried by the truck alone.

When the value of this principle was first recognized by haulers, its application was delayed by the tendency of the trailers then in use to "snake" or "whip" when speed was increased to the rate demanded by economical transportation. Since that time, however, improvements in construction have produced a four-wheel trailer which "tracks" perfectly, following exactly in the marks of the truck ahead, regardless of speed. The driver of a motor truck with a four-wheel trailer attached now takes the edge of the road without fear, and handles his combined vehicle as easily and as safely as if he were driving the truck alone.

Perfect Tracking Insured

THE trailer user no longer need fear the provisions in the highway laws which require that the trailer shall not deviate from the track of the drawing motor vehicle by more than a few inches. Perfect tracking is insured by automatic steering devices which guide the wheels of the trailer as accurately as if the trailer carried its own driver with his hands on a separate steering wheel

Improvements in coupling make it almost impossible for the trailer to break loose from the truck. If, by any chance this should happen, automatic air-brakes lock the wheels of the trailer and stop it within its own length as soon as it is disconnected.

Nearly all the large oil companies now use four-wheel trailers in hauling their products. A two or two-and-a-half-ton truck can pull a two-ton trailer on which is mounted a tank of from 600 to 750 gallons capacity. With a three-and-a-half-ton truck is it possible to pull a four-ton trailer with a tank containing from 1000 to 1200 gallons; while a five-ton truck can easly take care of a six-ton trailer, truck and trailer each carrying 1500 gallon tanks, or a combined load of 3000 gallons.

The Standard Oil Co. of New York operates out of Albany a fleet which includes 20 four-wheel trailers, some of six-ton capacity, and others capable of carrying ten tons. These loads are controlled with ease and safety on the hilly roads which they have to travel by air-brakes operated by the driver from his seat in the cab of the truck.

Disconnect Trailer To Unload

IN Boston the Jenny Oil Co. uses four-wheel trailers with a capacity of four tons. These trailers are especially useful to this organization, because when hauling to outlying communities, it is possible to disconnect the trailer at one station for unloading and enable the driver to proceed with his loaded truck to his final destination. The empty trailer is hooked on again upon the return trip.

The Atlantic Refining Co. operates a large fleet of four-wheel trailers in its Philadelphia territory, using the six-ton type, each carrying a 1500-gallon tank. The Bisbee Linseed Oil Co. of Philadelphia, whose product is transported in

drums, uses a ten-ton semi-trailer of the platform type, with side supports to keep the load in place.

The demand for tank trailers has been increased of late by the steady growth in the popularity of oil heating plants and the need of economical methods of serving the users of fuel oil. Some of the larger apartment buildings have oil storage tanks for holding upwards of 3,000 gallons. These can be filled with one trip of the truck and trailer combination, whereas when the motor truck was used, two trips were necessary. When two deliveries are to be made in the same neighborhood, it is a common practice of the Petroleum Heat and Power Co. of Boston to make the first delivery with the trailer and the second with the truck, cutting the operating cost of transportation in half. Both four-wheel trailers and semi-trailers are used for this class of work.

One of the most spectacular demonstrations of the use of tank trailers may be seen in Florida, where the motor haulage units of the Seaboard Oil Co. are familiar sights. Over the improved highways with which Florida is now being covered, and on the level grades of this state, high speeds are a great economy. To facilitate speed, trucks and trailers are both mounted on pneumatic tires, the trailers being of the four-wheel model and equipped with the latest devices to prevent whipping or snaking.

In arriving at the costs of operation stated above, the factors considered were fuel consumption, labor, and wear and tear on equipment. It was soon learned that the upkeep expense of the trailers, owing to their sturdy, simple construction, was so low as to be almost negligible in reckoning the annual overhead. The trailers depreciated at a much slower rate than the trucks, one trailer frequently outlasting two trucks of similar size and capacity.

COLORADO SPRINGS, COLO.—Mountain Tire & Gas Co. has installed a 16,000 gallon storage tank for gasoline, and also a gasoline pump at its bulk station here. Recently the company installed a one-pump station 13 miles out of town on the Canon City road.

Within a short time, two grease pits will be installed at its station No. 1 here, according to V. E. Rowton, manager.

ALBERT LEA, MINN.—Harber Oil Co. has completed its new bulk station here, which is equipped with 78,000 gallons storage capacity. The company is putting four 1½ ton Graham Bros. trucks into service.

A service station, equipped with six 10-gallon pumps is being completed by the company here, and business is reported as being good, according to H. P. Harber, proprietor.

"Gas" Men Tell You It "Pays"

"Yes—over a third increase in business the first year after we put a Flexlume Electric Sign at our station."

"Why?—because we pulled more and more customers by attracting their attention blocks away with this prominent sign. The motorist may see your station today but he forgets it tomorrow if you fail to remind him where you are and what you sell."

Write for information showing how you can steadily increase your sales and profits by advertising with a Flexlume day-and-night Sign.

We also build exposed lamp and other types of electric signs for those who prefer or require them.

FLEXLUME CORPORATION
1120 Military Road Buffalo, N. Y.
Flexlume Offices All Principal Cities
Factories also at Detroit, Los Angeles, Oakland, Calif. and Toronto, Canada

FLEXLUME CORPORATION

JUST AS EFFECTIVE BY DAY

WOULD YOU BELIEVE IT?

10 CUBIC FEET — HIGH PRESSURE
CONTINUOUS DUTY — AIR COOLED

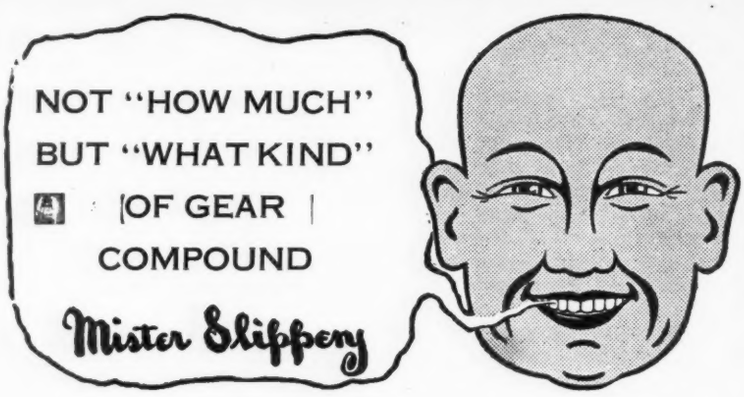
In the Dependable and popular Globe Simplex Two-Stage Type

The Only Air Cooled Compressor on the Market which can be operated continuously at high pressure.

Built in 1, 2 and 3 HP. sizes. Smaller and larger sizes in other types

Write for catalog and get ready—with GLOBE COMPRESSOR SERVICE—to beat competition all the year round.

GLOBE MANUFACTURING CO., Battle Creek, Mich.



It isn't a question of *how much* gear compound. It's a question of *what kind*. ADVANCE *Gearene* has been developed in the heart of the automobile industry with close cooperation between our staff of lubricating experts and the engineering staff of leading automobile manufacturers. ADVANCE *Gearene* is all lubrication—produced by a secret process and with special equipment. There is no filler—no asbestos fiber—nothing to lodge between gear teeth or clog bearings—nothing to result in dissatisfied customers.

ADVANCE *Gearene* is made from the best of oil bases and is supplied in various bodies to meet any automotive requirements and any temperature condition. Send us your name and we'll send you a sample of ADVANCE *Gearene*.

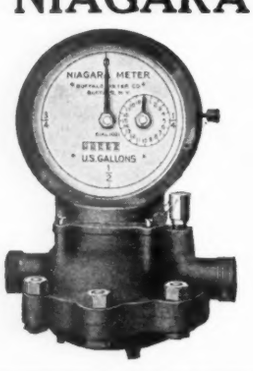
America's Greatest Grease Makers

AMERICAN OIL CORPORATION Jackson, Mich.

ADVANCE Gearene

and High Pressure Lubricating Grease

NIAGARA GASOLINE METERS



quickly pay for themselves by detecting waste or theft of oil. There are types for all uses, on gasoline, kerosene, lube oil, or fuel oil. Write us—get a catalog—find out for yourself.

BUFFALO METER CO.

2889 Main St. Buffalo, N. Y.

Oil Patents Issued Recently

Production

Fishing Tool.—Merrill I. Akins, Bishop and Charles J. Moyer, Orcutt, Calif. Filed Oct. 21, 1925. No. 1,583,767.

Plug for Wells.—William G. Long, Tulsa, Okla. Filed June 30, 1924. No. 1,583,982.

Device for Torpedoing Oil Wells.—Ford I. Alexander, Los Angeles, Calif. Filed March 19, 1924. No. 1,584,068.

Oil-Well-Cleaning Apparatus.—Frank A. Monroe, Jamestown, N. Y., assignor to The Increase Engineering System. Filed July 1, 1924. No. 1,584,187.

Jack for Derrick Legs.—John D. McEwen, Pittsburgh, Pa., assignor to Lee C. Moore & Co., Inc., Pittsburgh, Pa. Filed Dec. 19, 1924. No. 1,584,390.

Method of and Means for Use in Extinguishing Oil or Gas Well Fires.—John G. Hanna, Dunedin, Pa. Filed Aug. 21, 1923. No. 1,584,534.

Refining

Apparatus for Cracking Oils.—Ralph C. Holmes, New York, N. Y., and Frederick T. Manley, Houston, Tex., assignors to The Texas Co., New York, N. Y. Filed June 26, 1919. No. 1,583,973.

Apparatus for the Decomposition and Recombination of Hydrocarbons.—Alexander Thomas Stuart and Guy Noverre Middleton, Toronto, Ontario, Canada, assignors to Farley G. Clark. Filed July 5, 1917. No. 1,584,048.

Still.—Jacob Young, Winthrop, Mass. Filed Jan. 17, 1922. No. 1,584,267.

Treating Lubricating Oils.—Edward Goodrich Acheson, New York, N. Y. Filed March 19, 1921. No. 1,584,588.

Miscellaneous

Apparatus for Electrical Precipitation of Suspended Material from Gases.—Charles H. Weiskopf, Hawthorne, Calif., assignor to International Precipitation Co., Los Angeles, Calif. Filed July 30, 1923. No. 1,584,055.

Automobile Oiling and Greasing Rack.—Charles J. Maier, Decatur, Ill., assignor to Leader Iron Works, Decatur, Ill. Filed June 23, 1924. No. 1,584,463.

Apparatus for Distillation of Carbonaceous Substances.—Edgar Rouse Sutcliffe, Leigh, England, assignor to Pure Coal Briquettes Ltd., Cardiff, Wales. Filed May 13, 1918. No. 1,584,487.

Vapor Saver.—Ralph E. Sleppy, Tulsa, Okla., assignor of one-half to Edward M. Lotridge, Tulsa, Okla. Filed March 29, 1923. No. 1,584,671.

Gulf Forms Burner Company

PITTSBURGH, PA., June 24.—The Gulf Oil Burner Co., a subsidiary of the Gulf Oil Corp., of Pennsylvania, has been incorporated to manufacture and sell a line of domestic oil burners.

Officers of the new corporation are: George H. Taber, president; Charles B. Buerger, vice-president; W. J. Guthrie, secretary; and J. E. Nelson, treasurer.

TULSA.—Harvey Young Oil Co. has just completed a filling station here, which includes washing room and greasing pits under cover. The opening was held June 5 when candy was given away as an attraction, according to E. H. Wiet, president and manager.

Chief Scouts in Their Offices

National Petroleum News

George A. Schwab

TULSA—George A. Schwab, whose smiling countenance is shown above, is a member of the F. F. V's., having first seen the light in Alexandria, Va. The second time he saw the light was when he forsook his chosen professional of civil engineering in favor of oil scouting. Now, instead of carrying a transit around on his shoulder, or wielding a wicked ruling pen on maps, he is chief scout for the Barnsdall Oil Co. He occupied the same position for the Waite Phillips Co., and is one of the few who remained in the organization when that company was bought by the Barnsdall interests.

After studying engineering at George Washington University, Washington, D. C., and after a brief service in the Army, which was terminated by the signing of the Armistice shortly after he enlisted, Mr. Schwab followed the advice of Horace Greeley and turned up at Bartlesville, where he was with the Phillips Petroleum Co. for about four years, working in the engineering, geological, and land departments. He joined the Waite Phillips organization two and a half years ago. In spite of his youthful appearance, he is married and is the proud father of three children, consisting of two girls and one boy.

Barnsdall scouts reporting to Mr. Schwab are: Lawrence G. Stubbs, Eldorado, Kans., George E. Robertson, Ponca City, Okla., Robert P. Brewer, Jr., Holdenville, Okla., and Garrett Boone, Cisco, Tex.

MUSKEGON HEIGHTS, MICH.—The Broadway Oil Co. has installed the rotary lift to replace its old style drain pits, and has put in air scales, motor oil fountains and penetrating oil units.

The company opened on June 1 its new service station on state trunk line M-11 here. A garage and sales rooms have been built adjoining the service station, which was opened for business on June 15. The company recently opened another station here, according to F. A. Young, secretary and manager.

WATERVLIET, MICH.—The Watervliet Oil Co. reports a decided increase in its business during the past year over preceding years, despite inclement weather, and indications point to a banner year, according to H. G. Hinckley, secretary and treasurer.

BELLEVILLE, KAN.—B & J Oil Co. is building a garage, equipped with grease and wash racks. Huntington & Urban, owners of the company, state that they believe every service station should have car storage.

Good Will

is an important factor in any successful business. The Humble Oil & Refining Company appreciates that to hold your good will it is necessary to supply you with products, the sale of which will gain and hold the good will of your customers.

Humble Motor Oils satisfy. They are produced only from high-grade cold-test crudes and are "straight run." They are not mixed or blended. Humble Motor Oils are of a clean, beautiful amber color and have just the right body to properly lubricate all bearing surfaces, and when burned leave little carbon to foul the motor or contaminate the crankcase mixture.

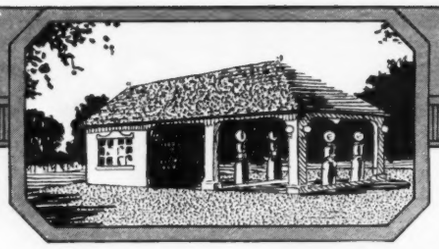
Humble Oil & Refining Co.

Houston, Texas

Producers - Pipe Lines
Refiners - - Marketers

"Zero Cold-Test Oils"

HUMBLE OIL & REFINING CO. HUMBLE OILS HOUSTON, TEXAS



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"A Straight Line Eight" That Develops Selling Power For The Jobber.

1—Motor Oil
2—Kerosene
3—Fuel Oil
4—Gasoline
5—Naptha
6—Stocks
7—Neutrals
8—Petrolatum

Penreco Special Process Motor Oils are a Bulls Eye for the Jobber.

Write for samples and prices.

The Pennsylvania Refining Co.
Karns City, Penna.

PENRECO

Help Your Salesmen

to acquire a working technical knowledge of the selection, application and use of lubricants, by ordering for each one a copy of the PRACTICE OF LUBRICATION by T. C. Thomsen.

It discusses the origin, nature and testing of lubricants and every phase of lubrication engineering.

It is $6 a copy. Make your check payable to—

National Petroleum News
825 Caxton Building **Cleveland, Ohio**

The Texas Co. Takes On Control System

NEW YORK—The Texas Co. announces the purchase of the sole rights to an invention made by L. de Florez, consulting engineer, which is expected to have an important effect on present methods of refining. In a statement the company says:

"The de Florez temperature control system, an automatic device for oil stills, is the result of nearly 10 years' experimental work on the part of the inventor. This system governs the rate of distillation in any continuous process and permits the operation to be constantly carried out under the most favorable conditions.

"The importance of automatic control of heat in the oil refining industry has long been recognized, but heretofore the many attempts to evolve suitable apparatus for this purpose have failed due to the exacting requirements of accuracy and reliability necessary in refining oil, especially in cracking.

"The adoption of this invention for use in the plants of The Texas Co. marks one of the first steps of the petroleum industry towards eliminating the personal element in refinery operations.

"This departure is similar to the change which has taken place in the power industry during the last few years and improvements in products which and should result in material economies will eventually be reflected in benefits to the public."

Informal Probe of Gas Prices in Kansas

CHICAGO, June 18.—State authorities in Kansas are investigating the gasoline price structure there by calling before the attorney general, representatives of various oil companies and asking them for their views on conditions in the state.

This course was induced by a visit of some twelve Independent oil men operating in the state, to the attorney general's office May 28, to protest against conditions brought about, they claimed, as a result of the Standard Oil Co. of Indiana in April putting into effect a half-cent cut on deliveries of 50 gallons or better, on top of the regular Q. D. A. concessions.

Some of the oil men who have been called to the attorney general's office suggest the creation of a state department of markets, similar to that in Wisconsin, through which they hope some of the present marketing practices could be eliminated. Others want the state to proceed against the Standard under the state law against price discrimination.

State authorities will not say what action may result from their investigation which they class as informal, or whether any action at all is a possibility.

Here & There

National Petroleum News

James (Jimmie) Creeden, formerly assistant superintendent in the Bristow-Slick, Okla. district for the Skelly Oil Co., Bristow, has been transferred to Artesia, N. M., as superintendent of that district.

Other promotions in the Skelly company's Bristow-Slick district include C. H. (Jake) Robinson, formerly chief bookkeeper, who has been promoted to the superintendency of the material department at Borga, Tex.

D. C. White, formerly warehouse clerk in the Cushing district, who has been promoted to chief bookkeeper in Bristow-Slick, succeeding Mr. Robinson. He will be under the jurisdiction of L. C. Smith, superintendent.

* * *

Dean E. Winchester, Independent consulting geologist, Denver, Colo., is back at his office after a week's trip of inspection into the Texas Panhandle district. Mr. Winchester specializes in petroleum, oil shale and coal geology independently, and is not connected with any organization, as has been erroneously published in some oil country newspaper.

* * *

C. J. McClary, sub agent at Zanesville for the Standard Oil Co. of Ohio, has been promoted to salesman and manager of the Zanesville district.

Mr. McClary succeeds H. H. White, who has been transferred to the lubricating department.

* * *

E. R. Kennedy, of Kennedy Oils, Galesburg, Ill., distributor for Champlin Refining Co., Enid, Okla., is away from office duties on a two weeks' fishing trip in Park Rapids, Minn. Mr. Kennedy is accompanied by his family.

* * *

J. A. Jones, who has been in the bulk sales department of the Sinclair Refining Co. at Tulsa, has been transferred to the Philadelphia district, which covers southern New Jersey, Delaware, Maryland and West Virginia.

* * *

Miss Goldie Mitchell, secretary at the East St. Louis, Ill. offices of the Standard Oil Co. of Indiana, Chicago, has recently returned from a trip to Hawaii and Pacific coast points.

* * *

E. W. Moser, president of the White Star Service, Perrysburg, O., oil jobbing company, is spending 30 days in New York and Washington.

* * *

H. A. Sample, manager of the Hughes Oil Co., Glendive, Mont., recently made a trip to Oberlin, O., to attend the graduation of his daughter from Oberlin College.

M. E. Foster, of the Phillips Petroleum Co., Bartlesville, Okla., has been taking a trip through the country calling on refiners, in the course of which he visited Cleveland, June 11. He says that, despite all that has been said and published on the subject, the oil industry generally is not aware of the extent to which natural gasoline manufacturers have improved their products over the past few years to make it more stable and cut down the amount of loss encountered in blending.

* * *

F. A. Craise, geologist for the Eskridge, Craise Petroleum Corp., Denver, Colo., has just returned from an inspection trip around the Moab, Utah district. Mr. Craise reports that many California and Rocky Mountain oil companies are securing holdings in that territory.

* * *

David W. Oswald, Scranton, Pa., has been appointed district representative for Clark Summit and Elmhurst divisions of the Maloney Oil & Mfg. Co., Scranton, Pa. and New York City. Benjamin Maschal has been appointed manager of Clark Summit service stations.

* * *

G. W. Shaw, president of the Franklin Oil & Gas Co., Bedford, O., left with his family on June 21 for a tour of the principal European countries. Mr. Shaw will be gone about two months.

* * *

R. V. Jones, of Formosa, Kan., has purchased the Boyd Oil Co.'s bulk and service station of Clyde, Kan. Mr. Jones took possession on June 1. He is handling Derby products.

* * *

A. C. H. Snyder, president of the Orfic Gasoline Co., Tulsa, has returned to his headquarters at Chicago after a two weeks' trip to the company's offices at Tulsa.

* * *

M. A. Bigelow, general manager of Orfic Gasoline Co., Tulsa, is making a tour of the company's properties in Texas and he will also visit the Amarillo field.

* * *

R. C. Tuttle, who has been in the advertising department of the Skelly Oil Co., Tulsa, for two years, has resigned to open a tire store at Cushing, Okla.

* * *

T. D. Conroy, president of the Conroy Oil Co., Wall Lake, Ia., is planning a vacation with his sons to Des Moines.

* * *

A. J. Vendsel, Ryder, N. D., is now salesman in the Parshall territory in North Dakota for the Standard Oil Co. of Indiana, Chicago.

Patent Pending

MORE OIL SALES

With oil displayed in this Rack holding 24 Dispensers. Has hinged caps covering each spout. All Bottle trays removable. The Neatest and Best Rack on the market.

Send for Particulars

WM. Neil & Co.

617 W. Division St. Chicago, Ill.

Advertising Gasoline Gauges

We can furnish the kind you want *WHEN* you want them. No order too large or too small. We are now supplying some of the largest buyers in the United States.

QUALITY and *SERVICE* we've got it.

Write for samples and prices.

Bryson Mfg. & Printing Co. Inc.

Fayetteville, Tennessee

"The Largest Manufacturers in the South."

"DEFIANCE"

STANDARD

There is but one grade of Defiance Steel Barrels. The difference in price is governed only by the size, style or external design.

There is a uniformity of manufacture that is standard, too. Defiance Barrels are *all* good barrels. Every barrel in a shipment can be depended on.

A Defiance Steel Barrel is an accepted standard in barrel buying.

THE AMERICAN STEEL PACKAGE CO.

Defiance, Ohio

Can You Always Put Your Hand On a Good Reference Book?

You can, if you own a set of the AMERICAN PETROLEUM INDUSTRY by Bacon and Hamor.

But if you are trying to get along without it, you are doing without two volumes of information carefully planned and arranged in such a way as to make them valuable reference books, of interest to the engineer in practice as well as to the research worker and student. Both volumes are illustrated throughout and cover the chemistry, geology, technology, history and economics of the subject thoroly.

The set sells for $12. Send us your order and make your check payable to—

National Petroleum News

834 Caxton Building Cleveland, Ohio

Industrial Notes

An award of $100 for the suggestion of the name "Meas-ur-chek" for the gasoline register placed on the market by the Gasoline Register Co., Chicago, has been made by that company to H. L. Purcell, of the Boise, Ida. branch of the Utah Oil Refining Co., Salt Lake City.

Meas-ur-chek is a new attachment for gaoline pumps which automatically certifies the number of gallons delivered by the pump at the filling station, the company claims. Installation can be made either by the pump manufacturer or at the filling station. The Gasoline Register Co.'s headquarters are at 4619 Ravenswood Ave., Chicago.

* * *

A. O. Smith Corp., Milwaukee, Wis., manufacturer of automobile frames, and high pressure stills and couplings for the oil industry, has just announced the appointment of Prof. T. McLean Jasper, formerly of the University of Illinois, as head of research division.

Prof. Jasper is well known in the metal structure research field and he has contributed several papers on the results of his investigations on "Fatigue of Metals." For the past five years he had charge of the university's laboratories engaged in metal research.

* * *

Gibbs Welding Machines Co., Bay City, Mich., manufacturer of electric arc, spot and seam welders, started construction on June 10 of an addition to its factory which will more than double its present floor space.

* * *

Jenkins Bros., New York City, manufacturer of valves and mechanical rubber goods, held its Sixty and Two convention of salesmen and representatives of this country, Canada, England, Cuba and Mexico, on June 7, 8, 9 and 10 at New York City, in commemoration of the sixty-second year of its business. Trips were made through the company's factories at Bridgeport, Conn., and Elizabeth, N. J. A banquet at the Hotel Biltmore in the evening of June 9 was given to over 100 men, with Farnham Yardley, president, acting as toastmaster.

Industrial Catalogues

The Western Iron & Foundry Co., Wichita, Kan.—A new 30-page book entitled "Western Line" is devoted to the company's line of rig irons, countershafts and tank car parts for use in oil fields. The Ideal rig irons, which the company makes, have been constructed according to the standard specifications laid down by the American Petroleum Institute. Data on workmanship, parts and specifications for these

units are given, with complete weight and cost of each complete unit.

Three types of countershafts which the company carries in stock, are described, with names, specifications, illustrations and costs of parts. These are designed to withstand severe strain in driving pumps in oil fields, with the minimum amount of attention and maintenance.

Data on tank car dome covers, outlet caps and legs, and brake shoes are also included.

* * *

American Cable Co., 215 N. Michigan Ave., Chicago.—A new 88-page hand book for wire rope users is just off the press. It gives complete information on usage, application and maintenance of wire rope, including details on how to measure wire rope, how and how not to uncoil or unreel wire rope, how to make an endless splice, how to properly seize rope, how to correctly socket wire rope, and other similar data. Detailed drawings illustrate the best methods for making slings, and other fitting equipment. A copy of the hand book can be obtained by addressing the above company.

* * *

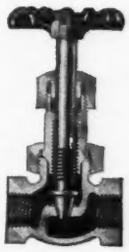
Broderick & Bascom Rope Co., 801-809 N. First St., St. Louis, Mo.—A 39-page book on wire rope entitled "The Yellow Strand," commemorating its 50 years in business, has just been published by this company. The book gives the history of the company since its organization in 1876, and also important historical facts of the United States during that time. It compares the differences in the rope industry of 50 years ago with the modern day, and describes and illustrates the development and use of rope in various industries. A picture of the company's large new $1,000,000 plant at St. Louis is shown as compared with the building in which it started business. The book also includes pictures and brief biography of its founders, John J. Broderick and Joseph D. Bascom, whose sons, John K. and Arthur L. Broderick, and Charles E. Bascom are now carrying on the business.

* * *

Ernest E. Lee Co., Inc., Chicago, Ill. Catalog No. 26 describes and illustrates the various types of power plant equipment for which the company acts as exclusive representative as merchant engineers in Illinois, Wisconsin, Indiana and Iowa territory. The company handles the equipment of several manufacturers of feed water regulators and governors, coal crushers, boiler feed pumps, piping, valves, expansion joints, recording instruments, heat exchangers, etc.

ONSLOW, IA.—William Rickels, Amber, Ia., has completed a service station here and announced the opening for April 24. Products of the Hawkeye Oil Co., Waterloo, are handled exclusively. Mr. Rickels is also agent for the Hawkeye at Anamesa, Ia. He has installed two 10 gallon visible gasoline pumps.

Jenkins Needle Valves



Sectional view, Fig. 705, Jenkins Needle Globe Valve, with bronze spindle.

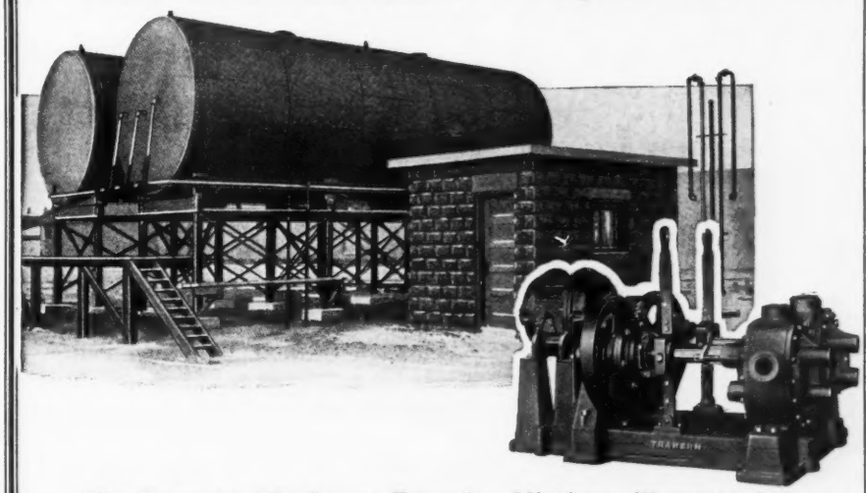
Jenkins Needle Valves are real Jenkins Valves in point of service. They are made of the same high grade bronze as the standard Jenkins Valves, and are built as the sectional view shows in the sturdy pattern. Note the union bonnet and the extra long stuffing box fitted with a gland or follower.

These valves are ideally suited for use on lines carrying oil and gasoline, and can be supplied with bronze spindle, or steel spindle, the latter when the smallest seat openings are required. With seat openings $\frac{3}{64}$ to $\frac{5}{16}$ inches.

JENKINS BROS.
80 White Street ----------New York, N. Y.
524 Atlantic Avenue ----------Boston, Mass.
133 No. Seventh Street ----Philadelphia, Pa.
646 Washington Boulevard ------Chicago, Ill.
JENKINS BROS., Limited
Montreal, Canada London, England

Always marked with the "Diamond"
Jenkins Valves
SINCE 1864

A Job This TRAHERN Pump Is Built For



The Escanaba Oil Co. at Escanaba, Michigan, illustrates how many bulk stations use TRAHERN *Rotary Gear* Pumps advantageously. The two pumps in the dual unit shown above can be used either simultaneously or independently as desired,—the outfit can also be furnished in units of one to five pumps.

A variety in types, capacities and power arrangement enables TRAHERN Pumps to meet the many needs of the oil industry. Capacities range from 1½ to several hundred gallons per minute —always free from pulsation.

Write for Catalog 50 and Prices

GEO. D. ROPER CORPORATION

ROCKFORD TRAHERN ILLINOIS.

New Oil Station Construction

National Petroleum News

Akron, O.—C. A. Pierce Oil Co. is completing brick filling station here and will start construction of bulk station on 3¼ acre site in East Akron, according to S. E. McFarren, manager.

* * *

Gloversville, N. Y.—Lyman H. Swears, Jr., is completing garage and filling staton, which will be operated as the Motor Sales & Service Garage.

* * *

Britt, Ia.—Ben Anderson, produce station operator at Hutchins, Ia., is building filling station to be run in connection with the produce buisness.

* * *

Owatonna, Minn.—Mickleson Bros. Oil Co., just organized here, may build filling station and purchase oil marketing equipment.

* * *

West Point, Neb.—George Horst, who recently took over the distribution of Texaco products, will build filling station here.

* * *

Scranton, Pa.—Maloney Oil & Mfg. Co. is building two service stations, one at Carbondale, Pa., and the other one here.

* * *

Fredonia, Kan.—W. A. Havener, of Wayside, Kan., purchased four lots here for filling station and store building.

* * *

Hornell, N. Y.—It is reported that Standard Oil Co. of New York plans to build filling station here.

* * *

Madison, Wis.— Standard Oil Co. of Indiana will erect $35,000 bulk station here, and $8000 garage.

* * *

Buffalo, N. Y.—Frank Rossinger, 1835 Abbott Rd., to build $1000 store and filling station.

* * *

Sharon, Pa.—Roberts & White Co. will build filling station at Hermitage, which is near Sharon.

* * *

Taylor Falls, Minn.—Standard Oil Co. of Indiana, Chicago, is completing filling station here.

* * *

O'Neill, Neb.—Standard Oil Co. of Nebraska, Omaha, will build filling station here.

* * *

Rapid City, S. D.—Paul Bellamy will build filling station.

* * *

Esterville, Ia.—John Weigand building filling station.

Shakopee, Minn.—Kopisca Oil Co., recently organized by John A. Kopisca who has been for the past eight years distributor of White Eagle products here, and his son-in-law, C. Russell Hickman, will erect a bulk and two filling stations. One of the filling stations will be built at Prior Lake, Minn. Red Hat gasoline will be handled.

* * *

TAMPA, FLA.—Erection of 50 filling stations in Florida and Georgia is the plan of the El Dac Oil Co., with headquarters at Bay-to-Bay Blvd. and Lisbon Ave., here. Two of the ten stations planned for Tampa are already completed.

Officers of the company include: E. Howard Cadle, formerly of Indianapolis and head of a chain system of shoe repair stores, president; Joseph Holbrook, formerly with the Standard Oil Co. of California, superintendent of service station; and W. T. McGee, head of the wholesale department.

Pelican Rapids, Minn.— Park Region Oil Co., recently organized, plans to build filling station here. Officers are: M. Sorenson, president: J. R. Quamme, secretary-treasurer; P. R. Peterson, vice president.

* * *

Fond du Lac, Wis.—Oscar A. Huelsman Motor Co. to build filling station, to be equipped with three gasoline pumps.

* * *

Eagle Grove, Ia.—Standard Oil Co. of Indiana, Chicago, has purchased property here, presumably for a filling station.

* * *

Minneapolis, Minn.—Hi-Grade Oil Co., with headquarters here, will build filling station at Prescott, Wis.

* * *

Clay Center, Neb.—The Service Oil Co. of Ong, Neb., is completing filling station here .

* * *

Brenhan, Tex.—The Texas Co. leased property for filling station.

* * *

Chadron, Neb.—Hudson Oil Co. is building filling station.

* * *

Fargo, N. D.—T. L. Berry is building filling station here.

Poughkeepsie, N. Y.—Paul I. Reynolds, of Reynolds-Brady Corp., has completed arrangements with Tide Water Oil Co., New York, to install Tydol filling station here.

* * *

Portland, Me.—Two filling stations will be built here, one by Maxim & Hershey, and the other by United Motor Accessories Stores, Inc.

* * *

Findlay, O.—Lily White Oil Co. is enlarging its bulk plant here, which will also be equipped with gasoline pump for retailing.

* * *

Sherman Tex.—M. F. Kidd is remodeling his store building here, which will include the addition of a filling station.

* * *

Como, Wis.—John Abbott is building filling station and store to replace the building destroyed by fire recently.

* * *

Oskaloosa, Ia.—J. Richard Barnes, and Standard Oil Co. of Indiana, will each build filling station here.

* * *

St. Cloud, Minn.—White Eagle & Oil Refining Co., Kansas City, will build filling station here.

* * *

Seymour, Tex.—Mr. Freudenstein, proprietor of the Baylor Hotel, will build filling station.

* * *

Prairie Grove, Ark.—Carl Carington, of Westville, Okla., is building filling station.

* * *

Oklahoma City, Okla.—Marland Refining Co., Ponca City, to build filling station.

* * *

Alliance, Neb.—Standard Oil Co. of Nebraska building two filling stations here.

* * *

Warrensburg, Mo.—Pierce Petroleum Corp., St. Louis, will build filling station here.

* * *

Lynn, Mass.—Perley W. Haywood is seeking permit for filling station.

* * *

Batavia, N. Y.—Hy-Grade Gas & Fuel Corp. to build filling station.

* * *

Tiffin, O.—Peter M. Muller purchased property for filling station.

* * *

Ranger, Tex.—William Speegle is completing filling station.

ON THE LAZY BENCH

National Petroleum News

Traffic Rules in Tokio

Ray E. Miller, Safety Engineer of the Mid-Continent Oil and Gas Association, sends in these traffic rules with the suggestion that they may be followed to aid in the prevention of accidents!

No. 1—At the rise of the hand of policeman, stop rapidly.

No. 2—Do not pass him or otherwise disrespect him.

No. 3—When a passenger of the foot hove in sight tootie the horn, trumpet at him melodiously at first, but if he still obstacles your passage, tootie him with vigor and express by word of the mouth the warning, "Hi! Hi!"

No. 4—Beware the wandering horse, that he shall not take fright as you pass him by. Do not explode an exhaust blow at him. Go soothingly by.

No. 5—Give space to the festive dog that shall sport in the roadway.

No. 6—Avoid entanglement of dogs with the wheel spokes.

No. 7—Go soothingly on the greasy mud and avert the skid demon.

No. 8—Press the brake of the foot as you roll around the corner to save collapse and tieup.

—Marland Service Man

◈ ◈ ◈

A Sad Story

"One day," testified the old countryman from the hills, who was on trial for murder, "when my rheumatism was pestering me, and my daughter had just eloped with a good for nothin' scallawag, and my barn had burned down and I lost both my mules, and my best old sow got the cholera and died, and I just heard they had foreclosed the mortgage and the sheriff was lookin' for me, I told my troubles to one of these here optimists and he said: 'Cheer up, old top, the worst is yet to come!' So I shot him."

—Loreco Diamond

◈ ◈ ◈

"Where is the manager's office?"

"Follow the passage until you come to the sign reading 'No Admittance.' Go upstairs till you see the sign 'Keep Out.' Follow the corridor till you see the sign 'Silence,' then yell for him."

—Atlantic Seal

◈ ◈ ◈

Boy, Page Mr. Herman August Vanderdondesblickenstafhen

Mr. McGonigle, of the Cosden Sales Corp. says he's an oil man from Sheldon, Ia.

Judging Some of the Jury

There is a certain youngster who isn't going to be subpoenaed as a witness any more by a certain attorney. One case is enough to lose.

The local youth was on the witness stand, when the lawyer started in to examine him.

"Have you any occupation?" asked the attorney.

"Nope."

"Don't you do any work of any kind?"

"Nope."

"What does your father do?"

"Nothin' much."

"Doesn't he do anything to support the family?"

"Odd jobs once in a while."

"As a matter of fact, isn't your father a worthless fellow, a deadbeat and a loafer?"

"I don't know," the witness replied. "You better ask him; he's sitting over there on the jury."

—Independent Topics

◈ ◈ ◈

Correct, Be Seated

English Prof.—Correct this sentence: "Before any damage could be done, the fire was put out by the volunteer fire department."

Frosh.—"The fire was put out before any damage could be done by the volunteer fire department."

—Texaco Star

◈ ◈ ◈

You and Me Too, Ted

Ted Helling of the El Dorado Refg. Co., El Dorado, Kan., says his auto is one of a make noted for its gasoline consumption qualities. The other day he drove into a filling station and said:

"Fill her up."

"All right," replied the attendant, "but you'll have to shut off your motor first."

◈ ◈ ◈

Force of Habit

"I never knew Jones had twins."

"My dear! He married a telephone girl and, of course, she gave him the wrong number."

—Oakite News Service

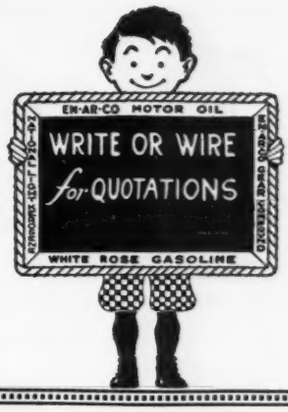
◈ ◈ ◈

Visitor (to guess about to deposit money in box at church): "Put that money back in your pocket, Bill. This is one on me."

—Atlantic Seal

◈ ◈ ◈

Contractor (to new toolie): "I'm starting you in at three dollars a day, but you'll get a raise as soon as you get onto the ropes."



The
NATIONAL REFINING COMPANY
PETROLEUM PRODUCTS

THREE MODERN REFINERIES:
Marietta, Ohio Refinery
operated on Pennsylvania Crude
Findlay, Ohio Refinery
operated on Ohio Crude
Coffeyville, Kansas Refinery
operated on Midcontinent Crude

National Headquarters
NATIONAL BLDG., CLEVELAND, O.

Something New in Cases

The bottles are held securely at the bottom by a narrow ledge, and at the top by a spring clip around their neck. There is a partition between each bottle which eliminates any chance of breakage and scratched labels.

The case itself has a stiff box frame, covered with smooth black cowhide, French sewed at edges, and lined with red velvet. Contains fourteen 4 oz. cut-bottom bottles with metal capped corks and ten ½ oz. squat grease jars held by adjustable bar. 209 Complete, with your name embossed in gold, only $15.75

Less 10% for cash.

Other Styles in our FREE Catalog

L-U-C-E

Builders of Sales Luggage

614 Delaware KANSAS CITY, MO.

1916
1926

TEN YEARS!

of manufacturing
and distributing
Petroleum Products
of Quality

SINCLAIR OILS
REG. U.S. PAT. OFF.

We build *good will* with *good oils* and *good service*

SINCLAIR REFINING COMPANY
45 Nassau Street, New York

ATLANTA DETROIT KANSAS CITY CHICAGO HOUSTON OMAHA

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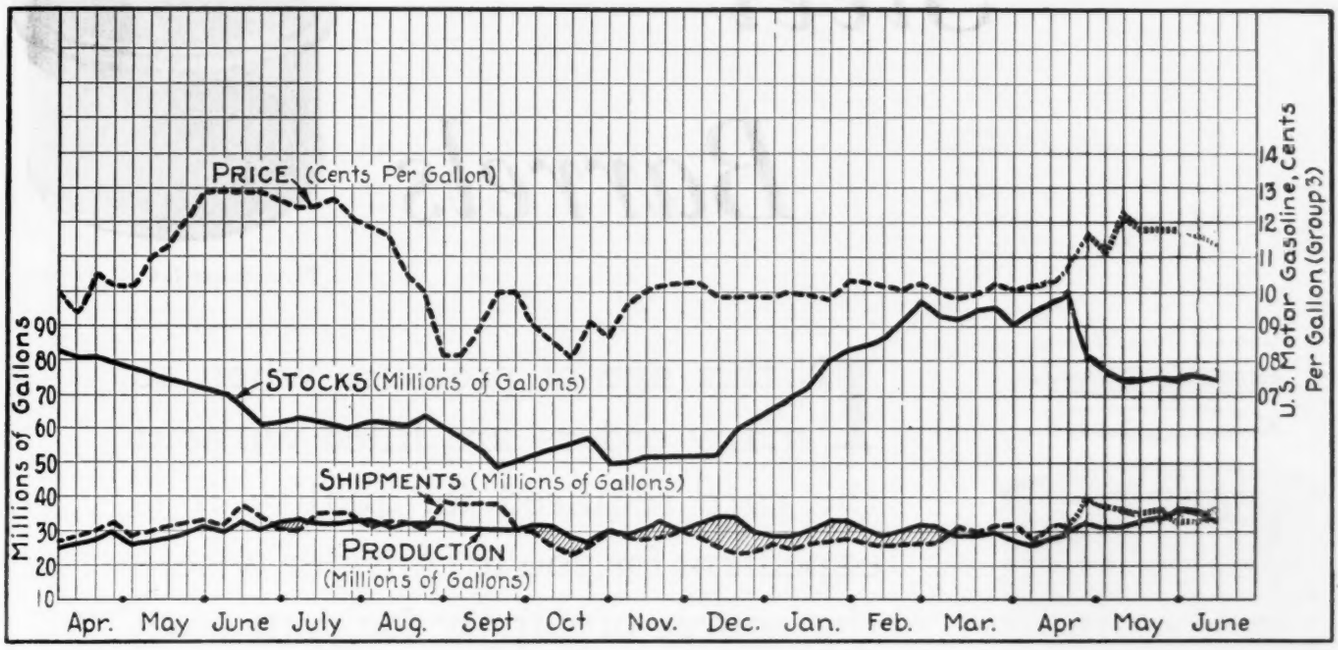
Refinery - Tank Wagon Markets

National Petroleum News

Barometer of the Mid-Continent Gasoline Markets Week Ending June 18

(Figures on Stocks, Shipments and Production taken from National Petroleum News weekly compilation of Mid-Continent Refinery Operations.)



(Shaded area above represents additions to stocks)

Mid-Continent Refiners Fidget as Buying Lags

Staff Special

TULSA, June 19

NERVOUSNESS among Mid-Continent refiners over the outlook for the remainder of June because jobbers' buying continues to lag, has had a bearish effect on the gasoline market this week.

Prices on practically all grades of gasolines went off from ¼ to ½ cent, natural gasolines slumped still more, kerosenes fairly tumbled in prices, and fuel oils became softer. Distillates and gas oil apparently were the only commodities to withstand the downward trend.

Refiners generally expected brisker buying this week and felt certain prices would hold firm. But the buying did not come in and the present situation had developed into a depressing one from the standpoint of refiners. Yet a good part of the blame probably can be laid at their door.

When buying did not develop after the first two or three days this week they began watching carefully for orders and in many instances did not let the matter of price stand in the way of closing a sale.

After the announcement of heavy buying late last week of higher gravity gasolines a few jobbers began feeling out the market to see if that buying had been sufficient to stiffen the market. They soon found out, however, that there were many refiners still anxious to move their goods and the jobbers apparently decided to hold off another week at least and see how the market would then stand.

Jobbers Well Supplied

SALESMEN of several large refineries have reported to their sales managers that several jobbers in their territories have sufficient gasoline on hand to supply their trade 30 to 40 days and they can therefore hold out for some time while they carefully watch the market.

Fourth of July is not far away and while many jobbers are well stocked there are others who will have to replenish their stocks after the week-end and holiday business. Refiners are counting upon that factor as their last hope for June.

Heavier buying may come next week refiners believe. If jobbers enter the market actively there is a possibility that prices will improve under brisk bidding for car numbers. This would have the usual tendency to encourage refiners to greater production.

If such a situation should develop it would complete the same old cycle in which refiners get pessimistic when low prices come along and jobbers become distressed when the market goes to higher price levels because all of them try to buy at the same time.

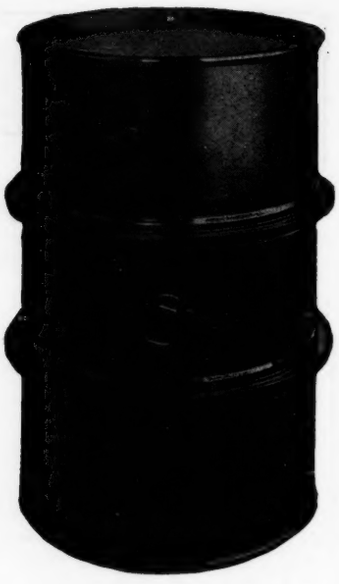
From in last November until the middle of April, jobber buying was primarily for needs only with no effort to store any large quantity. The price accordingly did not vary much more than ¼ cent from 10 cents a gallon. If jobbers had continued to buy steadily according to their requirements there probably would not have been the sharp upward turn in prices, those who did pay as high as 12½ cents for their gasolines probably could have gotten the goods more cheaply while refiners would not have been forced to sell now at what they feel are prices lower than the price of crude and the season justify.

Larger Crude Charges Blamed

THE unusual situation of a weak market in June is causing many individuals to make comparisons with last year. Several have blamed the situation

(Continued on page 133)

Better Steel Barrels



Extra Heavy I. C. C. Barrel

Patented, June 22, 1920

Sure Seal Barrel

IN this age of pressure when so many orders are filled without the care required for quality, it is expedient for you to consider wisely the source of supply for your steel barrels.

Quality is built in every Cleveland Steel Barrel—day in and day out, the same uniform, unvarying quality.

THE CLEVELAND STEEL BARREL CO.
9612 Meech Ave.
Cleveland, Ohio

Cleveland
STEEL BARRELS

Refinery Markets on Light Oils and Lubricants

Pennsylvania, Oklahoma, North and South Texas, Louisiana, Arkansas, California

GASOLINE AND NAPHTHA

PENNSYLVANIA	Prices June 21	Prices June 14	Prices June 7
52-54 Naphtha	13½-13¾	13½-14	13¾-14
54-56 Naphtha	13¾-14	14 -14½	14¼-14½
58-60 Gasoline	14 -14½	14¼-14½	14½-14¾
60-62 Straight-run gasoline	14¾-15	15 -15¼	15 -15½
64-66 Straight-run gasoline	15¼-16	-15½	15½-16
68-70 Straight-run gas. 350-360 E.P.	15¾-16¼	16½-17	15¾-16½
68-70 Straight-run gas. 305-320 E.P.	18 -19	19 -20	19 -20
OKLAHOMA			
48-50 450 E. P. naphtha	-11¼	-11¼	11¼-11½
50-52 450 E. P. naphtha	-11¼	-11¼	11¼-11½
56-58 450 E. P. gasoline	10⅞-11	11¼-11½	11½-11⅝
56-58 U. S. Motor gasoline	11 -11¼	-11½	11⅝-11¾
58-60 450 E. P. gasoline	11 -11⅛	-11½	11⅝-11¾
58-60 U. S. Motor 437 E. P.	11¼-11½	11½-11¾	11¾-12
60-62 400 E. P. gasoline	11¾-12	-12	12 -12¼
64-66 390 E. P. gasoline	12 -12¼	†12 -12¼	-12½
64-66 375 E. P. gasoline	12 -12¾	12¼-12⅜	†12½-12¾
68-70 350-360 E. P. gasoline	12¾-12⅞	-13	13 -13¼
64-66 437 E. P. blend	-11	-11½	11½-11¾
KANSAS*			
58-60 U. S. Motor gasoline	11½-11¾	11¾-12	12 -12¼
60-62 400 E. P. gasoline		-12½	-12½
64-66 375 E. P. gasoline	13 -13¼	13 -13¼	13 -13¼
*F. O. B. refinery Kansas destination.			
NORTH TEXAS			
48-50 450 E. P. naphtha	10¾-11	-11	11¼-11½
56-58 450 E. P. gasoline	10¾-10⅞	11 -11½	11¼-11½
58-60 450 E. P. gasoline	10⅞-11	11¼-11⅜	11½-11¾
56-58 U. S. Motor gasoline	-11	-11½	-11¾
58-60 U. S. Motor gasoline	11 -11½	11½-11¾	-12
64-66 390 E. P. gasoline	-12	† -12	† -12¼
64-66 375 E. P. gasoline	12¼-12⅜	12⅜-12⅜	† -12½
68-70 350-360 E. P. gasoline	-12¾	12¾-13	13 -13¼
NORTH LOUISIANA			
58-60 U. S. Motor 437 E. P.	-12	12 -12¼	12¼-12⅜
ARKANSAS			
58-60 450 E. P. gasoline	-11¾	-12	12 -12¼
58-60 U. S. Motor gasoline	-12	12 -12¼	12¼-12½
64-66 375 E. P. gasoline	-13	† -13	† -13
CALIFORNIA			
54-61 U. S. Motor gasoline	12½-13	12½-13	12½-13
42-45 Engine distillate, 445-480 E.P.	10 -10½	10 -10½	10 -10½

Note: This is without the 2-cent state tax included in the price of California refiners for shipments within the state.

NEW ENGLAND
(F. O. B. Boston and Fall River)

58-60 U. S. Motor gasoline	-14⅜	-14¼	-14⅜

NATURAL GASOLINE

(Note: End point of all grades, not over 375° F.)

OKLAHOMA			
Grade Double A	8⅝- 8⅞	- 9¼	9¾-10
Grade A	8⅝- 8⅞	- 9¼	9¾-10
Grade Double B	8½- 8⅝	9 - 9¼	9½- 9¾
Grade B	8½- 8⅝	9 - 9¼	9½- 9¾
Grade C	8¼- 8½	- 9	9⅜- 9½

NOTE—Specifications adopted by Ass'n. of Nat. Gaso. Manufacturers
Grade Double A—80-87.9 gravity, 90% recovery, not over 375 E. P.
Grade A—72-79.9 gravity, 90% recovery, not over 375 E. P.
Grade Double B—84-92 gravity, 85% recovery, not over 375 E. P.
Grade B—76-83.9 gravity, 85% recovery, not over 375 E. P.
Grade C—80-90 gravity, 78% recovery, not over 375 E. P.

NORTH LOUISIANA			
*Grade Double A	9¼- 9¾	10 -10¼	-10¾
*Grade Double B	- 9½	-10	-10½
*Grade C	- 9½	-10	10¼-10½
*F. O. B. Monroe District.			
NORTH TEXAS			
*Grade Double A	8⅝- 8⅞	9 - 9¼	9¾-10
*Grade A	8⅝- 8⅞	9 - 9¼	9¾-10
*Grade Double B	8½- 8⅝	- 9	- 9⅝
*Grade B	8½- 8⅝	- 9	- 9⅝
*Grade C	8¼- 8½	8⅞- 9	- 9½
*F. O. B. Breckenridge.			
CALIFORNIA			
78-84° 375 E. P.	15½-16	15½-16	15¾-16
PENNSYLVANIA			
68-70 Grav. 437 E. P.	14 -14½	14¼-14¾	14¾-15
64-66 Grav. 437 E. P.	14 -14½	14¼-14¾	14¾-15
60-62 Grav. 437 E. P.	14 -14½	14¼-14¾	14¾-15
68-70 Grav. 420 E. P.	14½-15	14¾-15	15 -15¼

BURNING OILS

PENNSYLVANIA			
45 Water White Kerosene	11 -11¼	11½-11¾	12¼-12¾
46 Water White Kerosene	11½-12	-12½	13 -13½
47 Water White Kerosene	12¼-12½	12¾-13	13¼-13¾
OKLAHOMA			
41-43 Water White Kerosene	6¾- 7¼	8 - 8½	9 - 9¼
42-44 Water White Kerosene	7½- 7¾	- 9	- 9¾
KANSAS			
41-43 w. w. kerosene	8 - 8½	9 - 9¼	10¼-10½
42-44 w. w. kerosene	9 - 9¼	9½-10	10¾-11

†Quotations only, no sales recorded.

NORTH TEXAS	Prices June 21	Prices June 14	Prices June 7
41-43 Water White Kerosene	7 - 7¼	8¼- 8¾	9¼- 9½
NORTH LOUISIANA			
41-43 Water White Kerosene	8¼- 8½	9 - 9½	-10
ARKANSAS			
41-43 Water White Kerosene	8¼- 8½	- 9½	9¾-10
CALIFORNIA			
38-40 Water White Kerosene	7 - 8	7 - 8	7 - 8
NEW ENGLAND			
*40-43 Water White Kerosene	-11	-11	

NEUTRAL OIL

PENNSYLVANIA			
(Viscosity at 70° F.)			
200 Vis. No. 3 Assoc. Filt	29½-30	29½-30½	29 -30
180 Vis. No. 3 Assoc. Filt	27½-28	27½-28½	27 -28
150 Vis. No. 3 Assoc. Filt	24½-25½	24 -25	23 -25
(Non-Viscous)			
34 Grav. 350-360 Flash	7¾- 8	7¾- 8½	7¾- 8½
36 Miners Neutrals 300-305 Flash	7½- 7¾	7½- 7¾	7½- 7¾
OKLAHOMA			
(Viscosity at 100° F.)			
100 Vis. No. 2 color	6¼- 7½	7 - 7½	6½- 7½
150 Vis. No. 3 color	9 -10	9 -10	9 -10
150 Vis. No. 4 color	9½- 9¾	- 9¾	9½- 9¾
180 Vis. No. 3 color	-10½	10½-11½	-10½
180 Vis. No. 4 color	9¼-10½	9¾-10½	9¼-10½
180 Vis. No. 5 color	9½-10¾	10 -10¼	9½-10¾
200 Vis. No. 3 color	-11½	11½-12½	-11½
200 Vis. No. 4 color	11¼-11½	-11½	11¼-11½
200 Vis. No. 5 color	9¼-11¼	9¼-11¼	9¼-11¼
220 Vis. No. 3 color	12 -13	12 -13½	12 -13
220 Vis. No. 4 color	13 -13¼	-13	13 -13¼
220 Vis. No. 5 color	12 -12¾	12 -12¾	12 -12¾
240 Vis. No. 3 color	14 -16	14 -15	14 -16
240 Vis. No. 4 color	14¼-14½	-14½	14¼-14½
240 Vis. No. 5 color	-14	13 -14	-14
280 Vis. No. 3 color	16 -17	16 -17	16 -17
280 Vis. No. 4 color	16¼-16½	-16½	16¼-16½
280 Vis. No. 5 color	15¼-16	15 -16	15¼-16
300 Vis. No. 5-6 color	17 -18½	-17	17 -18½
GULF COASTAL			
(Viscosity at 100° F; cold test 0)			
100 Vis. No. 2 Color Unfilt. Pale	8 - 8½	7½- 8	8 - 8½
200 Vis. No. 3 Color Unfilt. Pale	12 -12½	11½-12	12 -12½
300 Vis. No. 3 Color Unfilt. Pale	13½-14	12½-13½	13½-14
500 Vis. No. 3½ Color Unfilt. Pale	15½-16	14½-15½	15½-16
750 Vis. No. 4 Color Unfilt. Pale	19½-20½	18½-19½	19½-20½
200 Vis. No. 5½ Color Red Oil	10 -10½	9½-10	10 -10½
300 Vis. No. 5½ Color Red Oil	12 -12½	11½-12	12 -12½
500 Vis. No. 6 Color Red Oil	13½-14	12½-13½	13½-14
750 Vis. No. 6 Color Red Oil	17½-18½	16½-17½	17½-18½
CALIFORNIA			
(Viscosity at 100° F.)			
100 Vis. No. 2 color	11 -11½	11 -11¾	11 -11¾
100 Vis. No. 3 color	8½- 9	8½- 9	8½- 9
200 Vis. No. 3 color	13½-14	13½-14	13½-14
300 Vis. No. 3 color	15 -15½	15 -15½	15 -15½
450 Vis. No. 3½ color	18 -18½	18 -18½	18 -18½
550 Vis. No. 3 color	20 -21	20 -21	20 -21
600 Vis. No. 3½ color	21 -22	21 -22	21 -22
100 Vis. No. 5 color	7 - 7½	7 - 7½	7 - 7½
200 Vis. No. 5 color	12 -12½	12 -12½	12 -12½
300 Vis. No. 5 color	13 -13½	13 -13½	13 -13½
400 Vis. No. 5 color	15 -16	15 -16	15 -16
500 Vis. No. 5 color	16 -17	16 -17	16 -17
600 Vis. No. 6 color	17 -18	17 -18	17 -18
700 Vis. No. 7 color	18 -19	18 -19	18 -19

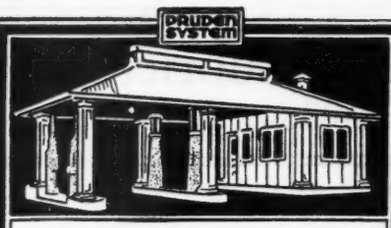
CYLINDER STOCKS

OKLAHOMA			
190-200 Vis. at 210° Bright Stock	31 -35	31 -35	31 -35
150-160 Vis. at 210° Bright Stock	27 -31	27 -31	27 -31
600 E Stock, 140-150 Vis. — 210°	18 -20	-18	18 -20
600 Steam Refined Olive Green	8½-11	8 -11	8½-11
600 Steam Refined Dark Green	6½- 7	6 - 8	6½- 7
Black Oil	5 - 6	5 - 6	5 - 6
PENNSYLVANIA			
(1-inch Immersion Test)			
600 Steam Refined	14½-15¼	14½-15¼	14½-15½
650 Steam Refined	19½-20½	20½-21	20½-21
600 Flash	24 -25	23½-24	23½-24
625 Flash	33 -34	33 -34	32½-33
600 Warren E	20½-21	20¾-21¼	21 -21½
600 Oil City E	19½-20	19¾-20¾	20 -20¾
Cold Test Stocks (bright filtered)	-41	-41	40 -41
Cold Test Stock (dark filtered)	38½-39	-39	-39

(Note—Prices of total immersion test goods average 1 to 3 cents per gallon higher.)

Above prices are f. o. b. refinery in tank car. They are the prices at which the bulk of the products on the open market move. Whoever has knowledge of any open market prices on any considerable quantity of goods differing from the foregoing, will favor us with this information.

*Only one refiner quoting.



Copper-Alloy Galvanized Steel

has been proven by chemical tests and years of actual service tests to be the toughest, strongest, most rust-resistant building metal that scientific steel milling can produce.

It keeps in perfect, rustless condition for many years, without need of repair.

So Pruden System buildings are fabricated ENTIRELY of this material, in heavy grades. No wood is used at all.

Their is a wide variety of styles of Pruden System buildings, some of which will exactly fill your requirements.

Ask for our circular.

The METAL SHELTER Co
WABASHA & WATER STS.
SAINT PAUL, MINN

Gasoline and Oil Filling Stations
and Steel Buildings

We manufacture the simplest to the most elaborate Stations. Put your own individuality in your Filling Stations—Let us help you work this out.

The Edwards Manufacturing Co.

524-544 Eggleston Ave. Cincinnati, Ohio

TRUCK TANKS WITH A REPUTATION

From coast to coast BROWN CERTIFIED TANKS are the standard of comparison. There are no secrets nor patents on these tanks, just good, honest, full weight material, correctly built by real tradesmen.

When you buy a truck tank you dont want to purchase substitutes, nick-nacks, nor freak experiments, You WANT, and have a RIGHT TO EXPECT, EFFICIENT SERVICE, OIL TIGHT DELIVERY, and ATTRACTIVE APPEARANCE.

These are the reasons why hundreds of successful Oil Companies have standardized on

BROWN CERTIFIED TRUCK TANKS

It will pay you to investigate their merits

A 1650 gallon with stake barrel carriers and underslung canboxes

BROWN SHEET IRON & STEEL CO. **ST. PAUL, MINN.**

— — — — — — — — — — — — — — — — *Tear out this page and mail it today* — — — — — — — — — — — — — —

We are interested in your tanks. Send your catalog and prices.

Make of Truck..... Size Tank Required.....

Other equipment on which you may send prices.....

Name..... Address.....

Refinery Markets on Wax and Heavy Oil Products

Pennsylvania, Oklahoma, North and South Texas, Louisiana, Arkansas, California

WAX

PENNSYLVANIA	Prices June 21	Prices June 14	Prices June 7
	(Per Pound, New York)		
122-124 White Crude Scale..	– 5⅜	5⅜– 5¼	5⅜– 5¼
124-126 White Crude Scale..	– 5½	– 5¾	– 5¾
OKLAHOMA			
	(Per Pound, Group 3)		
124-126 White Crude Scale..	4¾– 5	4¾– 5	4¾– 5
CALIFORNIA			
White Crude Scale.....	5½– 6	5½– 6	5½– 6

FUEL OIL

PENNSYLVANIA			
36-40 Fuel Oil.....	6¼– 6¾	6¾– 7	6¾– 7¼
30-34 Fuel Oil.....	6 – 6¼	6¼– 6½	6¼– 6½
28-30 Fuel Oil.....	– 6	6 – 6¼	6¼– 6½
OKLAHOMA			
38-40 Straw distillate.....	4½– 4⅝	4⅜– 4⅝	4⅜– 4⅝
36-38 Straw distillate.....	4¼– 4⅜	4¼– 4⅜	4¼– 4⅜
32-36 Gas oil (Gal.).....	– 4	– 4	– 4
26-30 Fuel oil (Bbl.).....1.25	–1.30	1.25 –1.30	1.35 –1.40
24-26 Fuel oil (Bbl.).....1.20	–1.25	1.22½–1.25	1.27½–1.32½
22-26 Fuel oil (Bbl.).....1.20	–1.22½	–1.22½	1.25 –1.27½
18-22 Fuel oil (Bbl.).....1.20	–1.22½	1.20 –1.22½	–1.25
14-18 Fuel oil (Bbl.).....1.17½	–1.20	–1.20	1.20 –1.25
KANSAS*			
38-40 Light straw distillate..	5 – 5¼	5 – 5¼	– 5
36-38 Light straw distillate..	4½– 4⅝	4½– 4⅝	4½– 4⅝
32-36 Gas Oil.....	– 4½	– 4½	4⅜– 4½
18-22 Fuel Oil.....1.30	–1.40	–1.30	–1.30
24-26 Fuel Oil.....1.40	–1.50	1.40 –1.50	1.40 –1.50
*F. O. B. refinery, Kansas destination.			
NORTH TEXAS			
38-40 Straw Distillate.....	4 – 4¼	4 – 4¼	4 – 4¼
32-36 Gas Oil (Gal.).....	3⅞– 4⅛	4 – 4⅛	3⅝– 3⅞
24-26 Fuel per (Bbl.).....1.25	–1.30	1.25 –1.30	1.30 –1.35

GULF COASTAL	Prices June 21	Prices June 14	Prices June 7
Fuel.....1.75	–1.85	1.75 –1.85	1.75 –1.85
Gas Oil.....	5½– 5¾	5½– 5¾	5½– 5¾
NORTH LOUISIANA			
32-36 Light Gas Oil (Gal.)..	4⅜– 4½	4¾– 4½	4⅜– 4¼
16-20 Fuel Oil (Bbl.).....1.40	–1.50	1.40 –1.50	1.35 –1.40
ARKANSAS			
32-36 Gas Oil.....	4¼– 4½	4¼– 4½	4¼– 4½
Smackover Crude Fuel.....1.20	–1.30	1.20 –1.25	1.20 –1.25
Road oil.....1.30	–1.36½	1.30 –1.36½	1.30 –1.36½
CALIFORNIA*			
14-18 Fuel Oil (Bbl.).....	1.00	1.00	1.00
14-18 Bunker Oil (Bbl.)....	1.00	1.00	1.00
24-30 Gas Oil (Bbl.).....	1.15	1.15	1.15
27 + Diesel Oil (Bbl.).....	1.15	1.15	1.15
*(San Joaquin Valley, San Francisco 4c per bbl. more.)			
NEW ENGLAND			
	(F. O. B. Boston and Fall River)		
30-32 Gas Oil (Gal.).....	– 5⅞	– 5⅞	– 5⅞
Fuel Oil (Bunker C) Bbl...	–1.82	1.75 –1.80	–1.82½

PETROLATUMS

PENNSYLVANIA			
Snow White.....	–11	–11	–11
Lily White.....	– 9½	– 9½	– 9½
Cream White.....	– 6¾	– 6¾	– 6¾
Light Amber.....	– 3⅞	– 3⅞	– 3⅞
Amber.....	– 3⅝	– 3⅝	– 3⅝
Red.....	3⅛– 3⅜	3⅛– 3⅜	3⅛– 3⅜
Green.....	1¾– 2	1¾– 2	1¾– 2

Above prices are f. o. b. refinery in tank car. They are the prices at which the bulk of the products on the open market move. Whoever has knowledge of any open market prices on any considerable quantity of goods differing from the foregoing, will favor us with this information.

(Continued from page 129)

upon increased crude charges to stills. As a matter of fact, from Jan. 1 to June 12, this year, total crude charges to stills have been 1.23 per cent less than they were in the same period last year, figures gathered weekly by National Petroleum News from 124 Mid-Continent refiners being used as a basis for calculations.

On the other hand production for that period this year increased by 61,424,000 gallons or 9.3 per cent. This means that refiners have been able to get a larger yield per barrel of crude. The yield per barrel of crude for the 1925 period was 36.3 per cent, compared with a yield of 40.2 per cent this year.

Scarcity of naphtha has kept that price above the usual differential under 56-58, 450 end point gasoline, and today naphtha was bringing a higher price than the lower gravity gasolines.

Demand for 56-58 gasoline has not been so good as in previous weeks and concessions have been made to get orders. One marketer who bought a quantity over the month today ordered some of his material for 10¾ cents per gallon if instructions could be furnished with the order.

U. S. Motor Slumps ½ Cent

U. S. Motor gasoline prices came down ½ cent in Group 3 during the week. The higher gravity buying of the previous week had the effect of holding the prices fairly well through Monday. When the buying wasn't better by Tuesday afternoon, prices began to slip.

Kansas refiners report their sales have been fairly good this month but they have been forced to come down to Group 3 prices because of competition.

Straight 58-60 U. S. Motor gasoline in Texas is relatively scarce. Most of the grades sold as "Motor" in that territory is really a naphtha-natural gasoline blend and prices are lower than those for straight U. S. Motor. The few refiners making straight U. S. Motor are fairly well sold up for the remainder of the month but say instructions are not coming in.

The U. S. Motor market in Arkansas and Louisiana also has been slow and to add to their depression refiners have been daily expecting a tankwagon reduction by the Standard Oil Co. of Louisiana.

Approximately 150 cars of 60-62, 400 end point gasoline were bought Friday for the account of The Texas Co. at approximately 12 cents a gallon, Group 3. There is some speculation as to what The Texas Co. will do with this gasoline. It is known to be moving to its Gulf terminal. Several observers express the opinion that the goods will be moved to the east coast for domestic consumption while others say The Texas Co. gallonage on its new gasoline is so large that the company has been forced to buy on the outside to take care of its export contracts.

NATURAL gasolines may improve later this summer but just at present they are hard to move. There was some talk Saturday of another large order coming in from California, and if this is placed it is probable the naturals market will be considerably strengthened.

Several of the smaller manufacturers who do not have regular contracts, have been wondering why the larger companies that are shipping large quantities on contract to the New Orleans Refining Co., do not buy naturals and apply the purchases on their contracts and thereby relieve the situation. The sales-manager of one of the larger companies said they could ship only doctor test material on their contracts and there was not enough spot material of this specification available. He declared that the surplus of sour material was really the cause of the present weakness.

Kerosenes are presenting a totally different picture from the one they showed 30 to 40 days ago. Whereas at that time there was practically no spot market on kerosene due to the scarcity of the product, at present there is practically no market because production has been outstripping demand. Prices are heard as low as 6½ cents for the remainder of June on 41-43 water white kerosene in Group 3.

Buyers of distillates and fuel oil for winter business are beginning to feel out the market but no contracts are reported to have been made. One large buyer of fuel oil said Friday that refiner's ideas of prices are so high there is likely to be considerable sparring before any contracts are made. He said refiners apparently desire to start their prices at $1.50 a barrel for 18-22 fuel oil.

Spot fuel oil business is slow and prices have slipped slightly.

Neutral oils and cylinder stocks are unchanged. Movement has been fairly good. Wax is firmer.

Cool and Rainy Weather Retards Chicago Gasoline Market

Staff Special

CHICAGO, June 19

STANDARD OIL CO. OF INDIANA territory has experienced another week of generally inclement weather, and with it the Chicago resale market has passed through another exceptionally quiet week. The trade now bases all hope for maintaining the present status of the gasoline market, let alone development of a stronger tone, on future weather conditions. Not only have showers played havoc with the motorist this week, but temperatures have been subnormal. Next week's weather outlook is none too promising either, because the weather man says that most of the middle west will be troubled again with scattered showers and that temperatures for the week will be cool.

The largest known gasoline transaction to which a Chicago marketer was party last week was one involving 25 cars. The order was for 58-60 U. S. Motor gasoline and was placed with a Group 3 refiner on Wednesday for immediate shipment at 11¼ cents. The gasoline has since been sold to jobbers in one and two-car lots at 11½ cents. Today, any price above 11½ cents was hard to obtain from jobbers although occasional sales were made during the first four days of the week at 11¾ cents. Several marketers today were selling U. S. Motor gasoline on which they were long at 11¼ cents, while others quoting this price admitted they were selling short.

50-Car Order Held Up

A LARGE Chicago jobber entered the market Wednesday for 50 cars of either 58-60 U. S. Motor gasoline or 58-60, 450 end point gasoline. Until noon today, none of the business had been placed and the buyer reported he would probably place orders for 25 cars early next week and withhold purchase of the other 25 until later in June. Other jobbers in and around Chicago are known to need gasoline but are waiting until next week to buy, expecting a softer market.

Lower gravity gasolines are holding around 11 to 11⅛ cents. Neither any 56-58, 450 end point or 58-60, 450 end point gasoline is known to have been sold at anything under 11 cents this week.

Kerosene prices have fallen almost ¼ cent per day; prices today are fully 1 cent under those prevailing Monday. Kerosene of 41-43 gravity is being sold today in single car lots only at 7¼ to 7½ cents. One Chicago marketer, expressing his opinion concerning the immediate future of kerosene, said he "would sell 100 cars of 41-43 w.w. kerosene at 6¾ cents for shipment over the remainder of the month" if he could. The 42-44 gravity kerosene is not so soft as the lower grade, due to scarcity in comparison with 41-43; this grade is held at 8¼ to 8½ cents.

Distillate Demand is Light

DISTILLATE, in little demand, is steady and rather firmly held. Good 38-40 gravity distillate is unobtainable under 4½ cents and several small sales have been reported at 4⅝ and 4¾ cents. The gas oil market is firm to strong. A steady demand from the industrial trade is taking the small amount of this commodity available. Bottom price on cracked gas oil of 32-36 gravity is 4 cents and straight run goods are bringing 4⅛ to 4½ cents; a premium of ⅛ to ¼ cent is asked for straw color oil.

Fuel oils are soft with demand low. Low gravity fuel oil, 14-18, is easy at $1.20 to $1.22½. The 18-22 gravity oil is fairly steady at $1.22½ to $1.25 while the 22-26 and 24-26 gravities both are freely available at $1.25 to $1.27½. Smackover crude fuel is firm at $1.20; some net business has been placed at $1.17½, which, however, is not considered representative of the general market.

PLATT'S
OILGRAM
Petroleum Markets-Every Day

HOW SURE ARE YOU?

If you were to place an order *today* for gasoline, or kerosene, or fuel oil, or lubricating oil—

How sure would you be that you were buying *at the right time* and *at the actual market?*

Did you hear of a tankwagon cut today in another territory, which might indicate a cut coming in yours? Or, did crude change today? Or, did some one put in a big buying order for export which will stiffen the gasoline market ¼ cent or so tomorrow?

A large part of your profits come from *daily accurate knowledge* of market prices and conditions.

PLATT'S OILGRAM brings you this market information from an unbiased source daily. Costs only 30 cents a day—a year for $75, or 3 months for $25. It's your greatest aid to showing PROFIT at the end of the year.

TULSA—608 Bank of Commerce Bldg.
CHICAGO—360 N. Michigan Ave.
CLEVELAND—850 Caxton Bldg.

Week's Price Changes Tank Wagon Markets

Gasoline Changes

Standard of Indiana—The 1½ cents cut on gasoline prices at Huron, S. D., which was reported by the Chicago offices of the Standard Oil Co. of Indiana to have been made on June 10, and as published on page 110 of the June 16 issue of National Petroleum News, did not go into effect. Therefore, prices at Huron remained 23.5 cents t.w. and 25.5 cents s.s., including 3 cents state tax, effective May 17. Prices are corrected in this week's issue in the accompanying tank wagon table.

Magnolia Petroleum—T.w. and s.s. prices gasoline reduced 1 cent generally through Oklahoma, June 16. An exception in this cut was Oklahoma City, where prices were cut 4 cents on that date, because of a price war, to 17 cents t.w. and 20 cents s.s., including 3 cents state tax. Rest of the state generally became 20 cents t.w. and 23 cents s.s., including tax.

Foreign Opportunities

Reserved information may be obtained from the Bureau of Foreign and Domestic Commerce, Washington, and its district and cooperative offices by duly registered firms and individuals upon written request by opportunity number. The Bureau does not furnish credit ratings or assume responsibility as to the standing of foreign inquirers; the usual precautions should be taken in all cases, and where no references are offered it does not necessarily imply that satisfactory references could not be given. Correspondence may be in English unless otherwise stated.

20234.—**Lubricating oils and greases,** Schweinfurt, Germany, agency.

20274.—**Paraffin wax,** Genoa, Italy **agency.**

20279.—**Fuel oil,** Genoa, Italy, purchase.

20292.—**Gasolene and kerosene,** Bombay, India, purchase and agency.

20309.—**Lubricating oils and greases,** Alexandria, Egypt, purchase and agency.

20325.—**Paraffin candles,** Khartum, Sudan, purchase and agency.

20337.—**Lubricating oils and paraffin wax,** Magdeburg, Germany, agency.

20410.—**Benzine, petrolatum and lubricating oils,** Para, Brazil, agency.

20517.—**Lubricating oils and greases, fuel oil,** Melbourne, Australia, agency.

20518.—**Gasoline, kerosene, lubricating oils, waxes,** Paris, France, agency.

20519.—**Lubricating oils and greases,** Maracaibo, Venezuela, agency.

20536.—**Petroleum** (unspecified) Schweinfurt, Germany, agency.

20582.—**Benzol and paraffin** in blocks, Berlin, Germany, purchase and agency.

20590.—**Paraffin wax,** Derby, England, purchase.

20592.—**Gasoline,** Antofogasta, Chile, purchase.

20606.—**Lubricating oils,** Auckland, New Zealand, agency.

20651.—**Asphalt** in 5 and 10 ton lots, Magdeburg, Germany, purchase.

Tank Wagon, Service Station Markets for Gasoline and Kerosene In United States Territories and Canada

These Prices in Effect June 21, 1926

S.O. NEW JERSEY TERRITORY

	Gasoline				Oil
	T.W.	Tax	Total T.W.	S.S.	T.W.
Atlantic City, N. J.	19	0	19	*	16
Newark, N. J.	19	0	19	21	16
Annapolis, Md.	19	2	21	*	16
Baltimore, Md.	19	2	21	24	16
Cumberland, Md.	19	2	21	24	16
Washington, D. C.	19	2	21	24	16
Danville, Va.	19	4½	23.5	*	16
Norfolk, Va.	19	4½	23.5	26.5	16
Richmond, Va.	19	4½	23.5	26.5	16
Roanoke, Va.	19	4½	23.5	26.5	16
Petersburg, Va.	19	4½	23.5	*	16
Williamsburg, Va.	19	4½	23.5	*	16
Charleston, W. Va.	19	3½	22.5	25.5	16
Clarksburg, W. Va.	19	3½	22.5	25.5	16
Keyser, W. Va.	19	3½	22.5	*	16
Parkersburg, W. Va.	19	3½	22.5	25.5	16
Wheeling, W. Va.	19	3½	22.5	25.5	16
Charlotte, N. C.	19.5	4	23.5	26.5	16
Hickory, N. C.	19.5	4	23.5	*	16
High Point, N. C.	19.5	4	23.5	*	16
Mt. Airy, N. C.	19.5	4	23.5	*	16
Salisbury, N. C.	19.5	4	23.5	*	16
Charleston, S. C.	19.5	5	24.5	27.5	16
Columbia, S. C.	19.5	5	24.5	27.5	16

*Dealers set own prices. S. O. New Jersey does not operate station.

S. O. NEW YORK

*New York City	21	0	21	25	17
Albany, N. Y.	21	0	21	23	17
Buffalo, N. Y.	20	0	20	23	17
Rochester, N. Y.	21	0	21	25	15
Syracuse, N. Y.	21	0	21	23	17
Boston, Mass.	21	0	21	24	17
Augusta, Me.	21	3	24	27	17
Manchester, N. H.	21	2	23	27	17
Burlington, Vt.	21	2	23	25	17

*In steel barrels.

ATLANTIC REFINING

Pittsburgh, Pa.	20	0	20	*25	17
Philadelphia, Pa.	20	0	20	*25	17
Allentown, Pa.	20	0	20	*25	17
Erie, Pa.	18	0	18	*23	15
Scranton, Pa.	20	0	20	*25	17
Altoona, Pa.	20	0	20	*25	17
Dover, Del.	20	2	22	25	17
Wilmington, Del.	20	2	22	25	17
Providence, R. I.	21	1	22	24	17
Boston, Mass.	21	0	21	24	17
Springfield, Mass.	21	0	21	23	17
Worcester, Mass.	21	0	21	24	17
Hartford, Conn.	21	2	23	26	16
New Haven, Conn.	21	2	23	26	17

*Contains 2-cent tax collected by retail dealer and paid by him directly to state.

S. O. KENTUCKY

Lexington, Ky.	20	5	25	28	19
Louisville, Ky.	20	5	25	28	18
Covington, Ky.	19	5	24	27	19
Clarksdale, Miss.	19	4	23	26	17.5
Jackson, Miss.	19	4	23	26	16.5
Natchez, Miss.	18.5	4	22.5	25.5	17
Vicksburg, Miss.	18.5	4	22.5	25.5	17
Birmingham, Ala.	20	2	22	25	19.5
Mobile, Ala.	19	2	21	24	18
Montgomery, Ala*	21	2	23	26	20.5
Atlanta, Ga.	†21	3½	25	28	20
Augusta, Ga.	†21	3½	25	28	20
Macon, Ga.	†21	3½	25	28	20
Savannah, Ga.	†19	3½	23	25	18
Jacksonville, Fla.	19	4	23	26	18
Miami, Fla.	21	4	25	28	19.5
Tampa, Fla.	19	4	23	26	18
Pensacola, Fla.	19	4	23	26	18.5

*Local privilege tax of 1 cent on gasoline and ¼ cent on kerosene at Montgomery included.

†Georgia has ¼ cent per gal. inspection fee on gasoline which is deducted as well as the state gasoline road tax of 3½ cents, to get the actual net tank wagon market to dealer.

S. O. INDIANA

	Gasoline				Oil
	T.W.	Tax	Total T.W.	S.S.	T.W.
Chicago, Ill.	19	0	19	21	15.5
Decatur, Ill.	19.2	0	19.2	21.2	16
E. St. Louis, Ill.	18.1	0	18.1	20.35	15.1
Joliet, Ill.	19.4	0	19.4	21.4	16.2
Peoria, Ill.	19.2	0	19.2	21.2	16
Quincy, Ill.	19.2	0	19.2	21.2	15.8
Indianapolis, Ind.	19.2	3	22.2	24.2	16.2
Evansville, Ind.	19	3	22	24	16
South Bend, Ind.	19.4	3	22.4	24.4	16.4
Detroit, Mich.	19.8	2	21.8	23.8	16.7
Grand Rapids, Mich.	19.7	2	21.7	23.7	16.6
Saginaw, Mich.	19.9	2	21.9	23.9	16.8
Madison, Wis.	19.3	2	21.3	23.3	16
Milwaukee, Wis.	19.1	2	21.1	23.1	15.8
La Crosse, Wis.	20.2	2	22.2	24.2	16.9
Minneapolis, Minn.	20.2	2	22.2	24.2	17.1
Duluth, Minn.	20.5	2	22.5	24.5	17.1
Mankato, Minn.	20.1	2	22.1	24.1	16.9
Des Moines, Iowa.	19.5	2	21.5	23.5	16.4
Davenport, Iowa.	19.5	2	21.5	23.5	16.4
Sioux City, Iowa.	19	2	21	23	16
Mason City, Ia.	19.5	2	21.5	23.5	16.4
St. Louis, Mo.	18.6	2	20.6	22.9	15.5
Kansas City, Mo.	††19.9	2	21.9	23.9	14.8
St. Joseph, Mo.	*19	2	21	23	15.4
Fargo, N. D.	21.9	1	22.9	24.9	19.1
Grand Forks, N. D.	22.2	1	23.2	25.2	19.4
Minot, N. D.	21.9	1	22.9	24.9	19.1
Pierre, S. D.	20.5	3	23.5	25.5	17.6
Huron, S. D.	20.5	3	23.5	25.5	17.6
Wichita, Kans.	17.8	2	19.8	21.8	15.3
Bartlesville, Okla.	17.8	3	20.8	22.8	15.3

†Dumps of 100 or more gallons at 18c per gallon.
*Includes city tax of ½c.
††Includes city tax of 1c.

S. O. NEBRASKA

Crawford, Neb.	20	2	22	*	16.75
Omaha, Neb.	19.25	2	21.25	23.25	16
McCook	20.75	2	22.75	24.75	17.5
Norfolk	19.75	2	21.75	23.75	16.5
North Platte	20.75	2	22.75	24.75	17.25
Scottsbluff	20.25	2	22.25	24.25	16.75

*Standard has no service station here.

CONTINENTAL OIL

Denver, Colo.	20	2	22	22	19
Pueblo, Colo.	20	2	22	24	19
Casper, Wyo.	20	2½	22.5	24.5	17.5
Cheyenne, Wyo.	21	2½	23.5	25.5	19
Butte, Mont.	22	2	24	24	21
Helena, Mont.	24	2	26	28	21
Salt Lake City, Utah.	22.5	3½	26	28	19
Boise, Ida.	24	3	27	29	21
Albuquerque, N. M.	26.5	3	29.5	29.5	21

S. O. CALIFORNIA

Phoenix, Ariz.	22	3	25	28	21.5
Los Angeles, Cal.	14.5	2	16.5	20.5	15.5
Fresno, Cal.	16.5	2	18.5	22.5	17.5
San Francisco, Cal.	16	2	18	22	15.5
Reno, Nev.	19.5	4	23.5	27.5	19
Portland, Ore.	16	3	19	23	16.5
Seattle, Wash.	16	2	18	22	16.5
Spokane, Wash.	20	2	22	26	20.5
Tacoma, Wash.	16	2	18	22	16.5

S. O. LOUISIANA

Little Rock, Ark.	18	4	22	25	16
Alexandria, La.	18	2	20	23	16
Baton Rouge, La.	17	2	19	22	14.5
Lake Charles, La.	18.5	2	20.5	23.5	16
New Orleans, La.	*18.5	2	20.5	23.5	15
Shreveport, La.	17	2	19	22	15
Lafayette, La.	18	2	20	23	15.5
Bristol, Tenn.	20.5	3	23.5	26.5	17.5
Chattanooga, Tenn.	20	3	23	26	17.5
Knoxville, Tenn.	20	3	23	26	18
Nashville, Tenn.	19	3	22	25	18
Memphis, Tenn.	18	3	21	24	17

*Includes 1c city tax on gasoline and kerosene.

S. O. OHIO

	Gasoline				Oil
	T.W.	Tax	Total T.W.	S.S.	T.W.
All Ohio points	20	2	22	24	17

MAGNOLIA PETROLEUM

Muskogee, Okla.	17	3	20	23	16
Oklahoma City	14	3	17	20	16
Tulsa, Okla.	17	3	20	23	16
Fort Smith, Ark.	17	4	21	24	16.5
Little Rock, Ark.	17	4	21	24	16.5
Texarkana, Ark*	19	4	23	23	15
Dallas, Tex.	20	1	**21	21	15
El Paso, Tex.	21	1	**22	22	16
Fort Worth, Tex.	20	1	**21	21	15
Houston, Tex.	20	1	**21	21	15
San Antonio, Tex.	20	1	**21	21	15

*Within city of Texarkana, Ark., the state tax on gasoline is 1c per gal. conforming with the Texas state tax. In Texarkana district outside of the city the 4c state tax applies.

**Magnolia is maintaining only one price schedule in Texas—its retail schedule. This is in keeping with its new contract, effective May 5, which allows the dealer 3c off the retail price.

V. M. & P. NAPHTHA

(Changes ordinarily occur coincident with gasoline)

	Oleum Spirits	V.M.&P. Naphtha	Cleaners Naphtha
Chicago	20	22	22
Detroit	21.2	23.7	23.7
Kansas City	20.2	22.2	22.2
Milwaukee	20.2	*24.7	*24.7
Minneapolis	21.5	*26	*26
St. Louis	19.4	21.9	23.2
New York	...	22	....

*Including state tax.

CANADA

(Per Imperial Gallon, which is 1.2 American Gallons)

ONTARIO

	Gasoline				Oil
	T.W.	Tax	Total T.W.	S.S.	T.W.
Toronto	26.5	3	29.5	33	24
Ottawa	26.5	3	29.5	33	24
Cochrane	31.5	3	34.5	40	29
Ft. William	29.5	3	32.5	37	25.5

MANITOBA

Winnipeg	29.5	3	32.5	36	26

SASKATCHEWAN

Regina	32.5	0	32.5	37	29

ALBERTA

Edmonton	31.5	2	33.5	37	28.5
Calgary	29.5	2	31.5	35	26.5

BRITISH COLUMBIA

Vancouver	23	3	26	30	23

QUEBEC

Montreal	26.5	3	29.5	33	24
Quebec City	28.5	3	31.5	35	26
Three Rivers	28.5	3	31.5	35	26

NEW BRUNSWICK

St. John	29.5	3	32.5	36	27
Moncton	29.5	3	32.5	36	27.5

NOVA SCOTIA

Halifax	29.5	3	32.5	36	27
Sydney	31.5	3	34.5	37	27.5

PRINCE EDWARD ISLAND

Charlottetown	29.5	3	32.5	36	27

Note: In districts surrounding these points 1c additional is added to city price.

Easier Prices Stimulate Export Buying; Lubricants Stronger

By Special Correspondent.
NEW YORK, June 21.

EXPORT demand for major petroleum products was more active last week. Gasoline and kerosene were a shade easier, but this stimulated rather than retarded export buying. Several bulk cargoes of gasoline, kerosene and gas oil were sold.

United Kingdom and Continental buyers are inquiring for fall deliveries. Conditions abroad are steadily improving, with the result that consumption of oil is gaining. Paraffin waxes, which have been more or less neglected for months, are recovering from their slump. Lubricating oils are strengthening. Marketers of United States oils abroad report keen competition with Galician and Russian oils in some sections of Europe, but American oils appear to be favored.

Export Gasoline—New York

While demand is more active, prices were easier owing to the low prices at which California gasoline can be laid down here. Leading refiners are asking 14 cents a gallon for U. S. Motor, but on a firm bid 13¾ cents could have been done and it was said California gasoline could be brought around at 13½ cents and possibly 13¼ cents a gallon.

A leading refiner was working on a cargo of U. S. Motor and 64-66 gravity, 375 end point gasoline, for July-August shipment to France, and expected to close soon a cargo of 42,000 barrels of U. S. Motor prime and water white kerosene for August shipment to the Continent. Cased gasoline was quiet the greater part of the week. A small independent has booked 40,000 cases of U. S. Motor and 64-66 gravity 375 end point gasoline for August shipment to the Far East.

Export Gasoline—Gulf Ports

Philadelphia refiner booked a cargo of 49,000 barrels of U. S. Motor at 12¼ cents and 64-66 gasoline at 14¼ cents for July-August shipment to France. This order called for 2,000 tons of prime and water white kerosene in addition to the gasoline. Kerosene, however, is scarce and this part of the order had not been filled up to Saturday. The gasoline will be cleared from the Gulf.

As the week closed U. S. Motor was quoted at 12½ cents a gallon with rumors 12¼ cents might have been done on a bid; 60-62 400 e.p. 13¼ cents; 61-63 390 e.p. 13½ cents and 64-66 375 e.p. 14½ cents and possibly 14¼ cents could have been done. An independent was working on an inquiry from the United Kingdom for 45,000 barrels of U. S. Motor and 64-66 gasoline for August shipment, but this has not yet been closed.

Cased gasoline was easier in sympathy with bulk material. U. S. Motor was offered in cargo lots at $2.25 a case while 64-66 was held at $2.50. One independent that caters to the Far Eastern trade is reported to have booked an order for 45,000 cases of Motor and 64-66 gasoline, for August shipment to Australasia.

Domestic Gasoline—New York

Bulk demand was less active. Consumption is soaring, but lower tank wagon prices in parts of the Middle west have resulted in a slump in jobbing demand. U. S. Motor is offered freely at 14 cents a gallon, tank cars refinery, and 15 cents in tank cars delivered to the trade. Tank wagon prices have not shown any changes.

Domestic Gasoline—Gulf Ports

U. S. Motor in tank cars at refineries was quoted at from 12¼ to 12½ cents. Jobbing demand was more spasmodic than the previous week. Prices were a trifle softer, reflecting the easier tendency in the Midcontinent. Consumption is holding up but the majority of buyers appear content with operating along hand-to-mouth lines.

Export Kerosene—New York

A little easier at the close of the week. Export interest is keener, although actual demand from the other side has been light. Prime white was lowered ½ cent and is now quoted at 10½ cents a gallon, tank cars at the refinery, while water white ranges from 11 to 11½ cents a gallon. Judging from the increase in the number of inquiries received by local refiners from European marketing concerns, stocks abroad are depleted, and a good buying movement may develop.

Cased kerosene was a quiet affair and no large movements were disclosed. One large independent refiner is negotiating to sell 50,000 cases of prime and water white for August shipment to the Far East, presumably China. Details were withheld.

Export Kerosene—Gulf Ports

Europeans inquiring for large quantities of prime and water white, are finding difficulty locating anyone in a position to take on bulk business. Those who have kerosene are insisting upon buyers taking a fair quantity of high gravity gasoline with it. Regardless of the easier tendency at New York, prime white was firm at from 8 to 8½ cents and water white at 9½ cents, bulk, Gulf.

Cased kerosene was a shade easier and business mainly against old contracts. Prime white in cargo lots was held at $1.90 a case, while water white was $2.

Domestic Kerosene

Jobbing demand is more spasmodic. Consumption is lighter and prices a shade easier. At Atlantic seaboard refineries water white is offered at 11 cents and prime white at 10½ cents. Water white in tank cars delivered to the trade is quoted at 12 cents. Large domestic consumers have not yet started buying for fall requirements.

Lubricants—New York

Pennsylvania cylinder stocks are strengthening. Export demand is still spasmodic but there has been a revival of foreign buying interest which is expected to result in purchasing soon. 600 steam refined barrels, New York, is 24½ cents a gallon. There was reported the sale of 500 barrels at around this price. Black oils were dull. Neutrals are moving more freely.

Lubricants—Gulf Ports

Conditions are improving. There still appears to be considerable competition among Gulf refiners for export business, but foreign buyers are finding it more difficult to shade prices. Exporters are more confident of the future. Domestic consumption is gaining, and all in all

Exports From Tampico District

Company	April	May
Transcontinental Petroleum Co., (Standard of New Jersey)	1,343,359	1,608,345
Pan American Eastern Oil Co.	2,886,420	3,599,005
Mexican Eagle Oil Co., (El Aguila)	835,445	1,463,766
Cia. Mexicana Holandesa "La Corona"	687,980	467,301
The Texas Co. of Mexico, S. A.	250,051	50,253
Mexican Gulf Oil Co.	225,234	188,762
Sinclair Mexican Companies	386,298	494,427
East Coast Oil Co. of Mexico, S. A., (Southern Pacific)	3,335	109,136
Panuco-Boston Oil Co.	.....	98,396
Mexican Oil Products Co.	38,296	9,239
Empire Gas & Fuel Co.	160,729	124,203
La Espuela Oil Co.	277,207	85,741
Pierce Oil Corp.	167,550	31,998
Mexican Atlas Oil Co.	91,651	35,857
Interocean Oil Co.	.....	48,865
New England Fuel Oil Co.	.....	.....
Totals	7,353,555	8,415,294

conditions appear to be better than in several weeks. A French buyer is reported dickering with an independent refiner for a cargo of 35,000 barrels of assorted lubricants for July-August shipment to the Continent.

Waxes—New York

Demand continued to improve. European buyers are beginning to stock up for fall requirements. White crude scale waxes are moving upwards, while fully refined grades are steady. White crude scale 122-124 A. M. P. is held at 5.35 cents a pound, while 124-126 A. M. P. is quoted at 5.40 cents a pound.

Fully refined 120-122 A. M. P. is steady at 5⅞ to 6 cents a pound. Domestic demand is more active. European inquiries are numerous, but orders from abroad are still scarce. For 125-127 A. M. P. the price is 6 to 6⅛ cents a pound.

Waxes—Gulf Ports

French, Spanish and South American buyers are operating on a large scale, although it is difficult to trace down sales. Market for white crude scale is strengthening. For 124-126 A. M. P. the price is 5.30 cents a pound, while 124-126 semi-refined is 5⅜ cents. Fully refined 125-127 A. M. P. was held at 5.80 cents, while 128-130 was quoted at 5.90 cents. The asking price for 130-132 A. M. P. was 6 cents; 133-135 A. M. P. 6⅜ cents and 135-137 A. M. P. 6¾ cents a pound.

Bunker Oil—New York

Grade C bunker oil is in better demand at $1.60 a barrel for bunkering purposes at refineries and $1.81½ a barrel f.a.s. New York harbor refineries although at the start of the week, there were rumors current of an impending advance. There is still a fairly heavy contract movement which is keeping stocks down. Diesel oil is in slightly better demand at $2.50 at the refineries.

Bunker Oil—Gulf Ports

Grade C was offered at $1.60, Gulf ports last week and in cargo lots at from $1.45 to $1.50. No export buying was reported. At Tampico grade C was practically unobtainable in cargoes, while in smaller lots the price was $1.55, f.o.b. Tampico including taxes. Heavy Panuco crude oil was steady at $1.20 taxes to be added. This price was largely nominal.

Gas Oil—New York

A small local Independent is reported negotiating for the sale of a cargo of 30,000 barrels of gas oil, probably 32 plus gravity, for August shipment to Scandinavia. Export inquiries have been much more numerous the past few days and, owing to the rather limited offerings, prices are firm. For 36-40, at the refineries the price was 6¾ cents, while 28-34 was quoted at 6 cents same basis. Domestic demand more active than a week ago.

Gas Oil—Gulf Ports

Prices little changed. Export buying interest is keener. Large refiners are still cracking extensively, and offering sparingly.

Complete Export Markets

New York Export Market

GASOLINE	June 21	June 14
U. S. Motor Tank cars Ref....	13¾-14	14 -14¼
U. S. Motor cases	29.40	-29.40
California grade U. S. Motor F. O. B. N. Y. Bulk	13½-14	14 -14½
KEROSENE		
43-45-150 W. W. Tank cars Ref..	11	11½-12
43-45-150 W. W. Cases	20.40	-20.40
42-44-110 S. W. Cases	19.15	-19.15
GAS OIL		
36-40, Bulk Refinery	-06¾	-06¾
28-34, Bulf Refinery	-06	-06
MEXICAN BUNKER OIL		
Grade C, f. o. b. ref. Bulk	1.75	- 1.75
Diesel Oil f. o. b. ref. Bulk	2.50	- 2.50

LUBRICATING OILS

The following prices are cooperage basis f. o. b. New York, products being manufactured by inland refineries.

CYLINDER OILS (Bbls.)		
1 inch Immersion Test; All Penna. Products		
Filtered D 600	29½	-30
Filtered E 600	28	-28
Unfiltered 600 s. r.	24 -24	24 -24½
Unfiltered 650 s. r.	28½	-29
600 flash s. r.	30	-30
630 Flash	40	-40
RED PARAFFIN (Bbls.) (Viscosity at 70)		
300 vis. No. 5 color	21	-21
250 vis. No. 5 color	20	-20
High Viscosity No. 5 color	25	-25
NEUTRAL OILS (Bbls.) (Viscosity at 70)		
200 vis. at F. Pale... No. 3 color	-31	-31
180 Pale No. 3 color	-29	-29
150 Pale No. 3 color	-24½	-24½
BLACK OIL (Bbls.)		
25-30 cold test	13½	-13½
15 cold test	14½	-14½

MEDICINAL OILS (Includes Price of Drums) (Penna. Stocks)	June 21	June 14
Domestic 875-.885 s. g.	-.85	-1.10
Domestic 865-.870 s. g.	.75- .80	.85- .90
Russian 885-.890 s. g. 325-350 vis.	1.10-1.25	1.10-1.25
WAXES (Penna. Stocks) (F. A. S. Carload Lots)		
WHITE CRUDE SCALE		
122-124 A. m. p.	-5.40	-5.35
124-126 A. m. p.	-5.40	-5.35
MATCH		
105-108 A. m. p.	-06	-06
FULLY REFINED		
120-122 A. m. p.	05¾-06	05¾-06
123-125 A. m. p. Philadelphia..	-06	-06
125-127 A. m. p.	-06⅛	-06⅛
128-130 A. m. p.	-06¼	-06¼
130-132 A. m. p.	-06⅜	-06⅜
133-135 A. m. p.	-06¾	-06¾
135-137 A. m. p.	-07	-07
SEMI REFINED		
122-124 A. m. p.	-5.40	-05¼
YELLOW CRUDE SCALE		
124-126 A. m. p.	5.15	5.15
PETROLATUMS (Penna. Stocks) Per Pound		
Dark Green	02¾-03	03
Veterinary	03¼	03¼
Light Amber	03⅜	03⅜
Dark Amber	03½	03½
Cream	06¼	06¼
Lily White	08¼	08¼
Snow White	10¾-11	11 -11⅛

Gulf Export Market

GASOLINE
F. O. B. Seaboar !
Shipments of 20,000 Bbls. and over

	June 21	June 14
U. S. Motor, Bulk	12¼-12½	12¼-.12½
60-62 400 e. p. Bulk	15¼	-.15¼
61-63 390 e. p. Bulk	13½	-13½
64-66 375 e. p. Bulk	14¼-14½	-.14½
U. S. Motor, Cases (cargo lots)	2.25	2.30
64-66, Cases (cargo lots)	2.50	2.50
KEROSENE		
Water White, 43-45 bulk	09½	-09½
Prime White, 41-43 bulk	08 -08¼	08 -08¼
Water White, cases (cargo lots)	2.00	-2.15
Prime White, cases (cargo lots)	1.90	-2.00
DOMESTIC GAS AND BUNKER OIL		
26-28, gravity, bulk*	05¼-05½	05¼-05½
32 plus, bulk, Dark	05	-05
Grade C, Bunker oil	1.60	-1.60
Cargoes	1.50	-1.50

*Transparent through neck of a 4 oz. bottle.

MEXICAN CRUDE AND BUNKER OILS
F. O. B. Steamer Tampico

Heavy, Taxes to be added	1.20	-1.20
Grade C, Bunker oil Taxes paid	1.55	1.40-1.55
Grade C, Bunker oil F. O. B. New Orleans	1.60	-1.60

SOUTH TEXAS
(Viscosity at 100°F; cold test 0)
(Tanker, F. O. B. Houston)

*LUBRICATING OILS	June 21	June 14
100 Vis. No. 2 Unfiltered Pale	07¼	07¼
150 Vis. No. 2½ Unfiltered Pale..	09¼	09¼
200 Vis. No. 3 Unfiltered Pale	11	11
300 Vis. No. 3 Unfiltered Pale	13	13
500 Vis. No. 3½ Unfiltered Pale..	14¼	14¼
200 Vis. No. 5½ Red Oil	10¼	10¼
300 Vis. No. 5½ Red Oil	11	11
500 Vis. No. 6 Red Oil	11½	11½
800 Vis. No. 6 Red Oil	16	16

*These prices are entirely nominal owing to wide fluctuations.

Pacific Export Market

(Cargo lots quotations at seaboard, Los Angeles)

	June 21	June 14
Gasoline, U. S. Motor— 54°-56°	11 -11¼	11 -11¼
Gasoline, U. S. Motor— blends and special cuts	11¼-11½	11¼-11½
Gas Oil, 24°—30°B. per bbl.	$1.15	$1.15
Diesel Oil, 27°B—plus per bbl.	$1.15	$1.15
Bunker Oil, 14°—18°B. per bbl.	$1.00	$1.00
Fuel Oil, 14°—18°B. per bbl.	$1.00	$1.00
Kerosene, W. W. 40°—42° B per gal., 125-150 flash test	05¾-06¾	.05¾-.06¾
Cased Goods		
Gasoline, U. S. Motor	$2.55	$2.55
Kerosene, W. W. 38°—40° B per case, flash test 125-150	$1.50-1.55	$1.50-1.55

N. Y. Domestic Market

The following light oil, gas and fuel oil prices are F. O. B. New York refineries, being products made from Domestic (including California) and Mexican Crudes.

	June 21	June 14
U. S. Motor Gasoline, Tank Cars Delivered greater N. Y.	14¼-15	15 -15½
U. S. Motor Gasoline, Tank Cars Bayonne	13¾-14	14 -14½
U. S. Motor, Tank Cars, *Atlantic Seaboard Terminals	13¾-14	14 -14½
Kerosene, 44 150 W. W. Tank Cars De'd greater N.Y.	-12	12½-.13
Grade C Bunker f.o.b. N.Y. Ref.	1.75	1.75
Diesel Oil f. o. b. Refinery	2.50	2.50
Gas Oil, 36-40, Bulk Refinery	-06¾	-06¾
Gas Oil 28-34 Bulk, Refinery	-06	-06

*New York, Philadelphia, Portsmouth, Va. Charleston, S. C.

Crude Oil Prices All Fields

PRICES IN EFFECT, *June 21*

EASTERN FIELDS
Posted by Joseph Seep Purchasing Agency

Penna. Grade Oil in New York Transit Lines (Alleghany, N. Y. District)	$3.65
Bradford District Oil in National Transit Lines (Bradford District)	3.65
Penna. Grade Oil in National Transit Lines (Other Pennsylvania)	3.55
Penna. Grade Oil in Southwest Penna. Pipe Lines (Other Pennsylvania)	3.55
Penna. Grade Oil in Eureka Pipe Lines (West Virginia)	3.50
Penna. Grade Oil in Buckeye Pipe Lines (Macksburg, O. district)	3.30
Keister Grade in National Transit Lines (Butler Co.)	2.45
Gaines, Tioga Co. (Pa.)	3.10
Cabell Grade in Eureka Pipe Lines (West Virginia)	2.40
Corning Grade in Buckeye Pipe Lines (Ohio)	2.55
*Somerest Medium in Cumberland Pipe Lines (Kentucky)	2.50
*Somerset Light in Cumberland Pipe Lines (Kentucky)	2.65
Ragland Grade in Cumberland Pipe Lines (Kentucky)	1.25

*Somerset oil run prior to Oct. 1, 1923, takes price of 6 cents lower than above quotations.

CENTRAL STATES FIELDS
Posted by Ohio Oil Co.

Wooster	$2.55	Illinois	$2.37
Lima	2.48	Plymouth	1.90
Waterloo	1.35	*Canadian Petrolia	2.88
Indiana	2.25	*Posted by Imperial Oil, Ltd.	
Princeton	2.37		

OKLAHOMA, KANSAS And NORTH TEXAS FIELDS
(Prices of Prairie Oil & Gas Co.)
(Prairie's prices apply in Oklahoma, Kansas, North and East Central Texas)

28-28.9	$1.65	41-41.9	$2.69
29-29.9	1.73	42-42.9	2.77
30-30.9	1.81	43-43.9	2.85
31-31.9	1.89	44-44.9	2.93
32-32.9	1.97	45-45.9	3.0
33-33.9	2.05	46-46.9	3.09
34-34.9	2.13	47-47.9	3.17
35-35.9	2.21	48-48.9	3.25
36-36.9	2.29	49-49.9	3.33
37-37.9	2.37	50-50.9	3.41
38-38.9	2.45	51-51.9	3.49
39-39.9	2.53	52 and above	3.57
40-40.9	2.61		

Effective May 15, The Texas Co. posted same gravity and price schedule as Prairie in Oklahoma, Kansas, North, North Central and Central Texas fields.

Humble Oil & Refining Co. Prices

(Ranger, North Texas, Mexia, Powell, Richland, Worthman, Lytton Springs, Currie and Moran crudes all in Texas.)

Effective May 15, Humble posted same gravity and price schedule in all the above fields as that posted by Prairie, excepting that Humble is paying 8c less for each full degree below 28 gravity.

Nocona, Montague Co., N. Tex.,

25-25.9	$1.41
26-26.9	1.49
27-27.9	1.57
28-28.9	1.65

Other grades and prices same as Mid-Continent crude schedule.

Mirando, Tex	$1.25

Magnolia Petroleum Co. Prices In Oklahoma, Kansas and North and East Central Texas

Effective May 15, Magnolia posted same gravity and price schedule as Prairie, in all fields where it purchases on a gravity basis, excepting that it is paying $1.30 for all oil below 28 gravity.

Effective May 15, Corsicana heavy was advanced to $1.25 per barrel.

PANHANDLE, TEXAS
Prices of Kay County Gas Co. and Magnolia Petroleum Co.

28-28.9	$1.35	34-34.9	$1.65
29-29.9	1.40	35-35.9	1.70
30-30.9	1.45	36-36.9	1.75
31-31.9	1.50	37-37.9	1.80
32-32.9	1.55	38-38.9	1.85
33-33.9	1.60	39 and above	1.90

On June 21, Humble added to above Panhandle schedule, five new grades of light oil, posting 40-40.9 at $1.95, and 5c additional for each succeeding degree of gravity, up to 44 and above, which is $2.15

NORTH LOUISIANA—ARKANSAS FIELDS
***Prices of the Standard Oil Co. of Louisiana**

Caddo, below 32	$2.10
" below 32-34.9	2.25
" 35-37.9	2.35
" 38 and above	2.45
Homer, below 31	1.85
" 31-32.9	2.00
" 33-34.9	2.10
" 35 and above	2.20
Haynesville, below 33	2.00
" 33 and above	2.10
El Dorado, including Lisbon, below 33	2.00
" 33-34.9	2.10
" 35-36.9	2.20
" 37 and above	2.30
Bull Bayou, 32-34.9	1.95
" 35-37.9	2.10
" 38 and above	2.25
Smackover, below 24	1.10
" 24-24.9	1.35
" 25-25.9	1.40
" 26-26.9	1.45
" 27 and above	1.50
De Soto	2.30
Crichton	2.10
Bellevue	1.50
Cotton Valley	1.20
**Urania, La	1.15

*Same prices maintained by The Texas Co., excepting on Caddo below 32 which was unchanged by The Texas Co. at $1.85. Gulf Refining Co. of Louisiana and Louisiana Oil Refining Corp. are also paying same prices as Standard in fields where they purchase. All purchasers of Smackover are maintaining the same gravity and price schedule as Standard. Gulf is paying 95c for Calion (East El Dorado Crude.)

**Posted by Louisiana Oil Refining Corp.

STEPHENS, ARKANSAS
Posted by Louisiana Oil Refining Corp., and Atlantic Oil Producing Co.

26 and above	$1.65	Below 26	$1.45

GULF COASTAL FIELDS
Posted by Humble Oil & Refining Co.

Grades A	$1.60	29-29.9	$1.75
Grades B:		30-30.9	1.80
Below 25	1.50	31-31.9	1.85
25-25.9	1.55	32-32.9	1.90
26-26.9	1.60	33-33.9	1.95
27-27.9	1.65	34-34.9	2.00
28-28.9	1.70	35 and above	2.05

Humble is paying the above prices in Goose Creek, Hull, Liberty, West Columbia, Orange, Boling and Pierce Junction fields.

Prices of The Texas Co.

Grades A	$1.60	*Grades B	$1.60
†Grades B (light crude):			
35-35.9	$2.05	38-38.9	$2.20
36-36.9	2.10	39-39.9	2.25
37-37.9	2.15	40 and above	2.30

*Grades B include all heavy crudes which do not meet tests for Grades A or for Gulf Coast light crude.

†The Texas Co.'s gravity and price schedule on oil below 35° is same as Humble's postings on Grades B.

ROCKY MOUNTAIN FIELDS
Prices of Ohio Oil Co. and Midwest Refining Co.

†Salt Creek 29-29.9	$1.73
" " 30-30.9	1.81
" " 31-31.9	1.89
" " 32-32.9	1.97
" " 33-33.9	2.05
" " 34-34.9	2.13
" " 35-35.9	2.21
" " 36-36.9	2.29
" " 37 and above	2.37
Elk Basin	2.40
Grass Creek light	2.40
Big Muddy	2.25
Lance Creek	2.40
Rock Creek	2.25
†Osage	2.40
†Cat Creek, Mont	2.40
Sunburst, Mont	1.05
†Hogback, N. Mex	2.45
Artesia, N. Mex	2.20

†Posted by Midwest Refining Co. Midwest also buys Grass Creek light, and Elk Basin.

The Texas Co. buys Salt Creek and Big Muddy crude.

CALIFORNIA
Standard Oil Co. of California

Santa Maria and Ventura Posted by *Union Oil Co.

Gravity	Signal Hill Huntington Beach	Ingle-wood Torrance	Whittier La Habra	Newhall, McKittrick, Kern River	Olinda-Brea Canon, Richfield	Athens-Rosecrans Dominguez	Monte-bello	Coyote Hills	Santa Fe Springs	Midway-Sunset Elk Hills	Lost Hills	Coalinga	Wheeler Ridge	Santa Maria	Ventura
14-14.9	$ .85	$ .85	$ .85	$ .75	$ .85	.....	$ .85	$ .85	.....	$ .75	$ .75	$ .75	$ .75	$ .85	$ .85
15-15.9	.87	.87	.85	.75	.87	.....	.85	.85	.....	.75	.75	.75	.75	.85	.85
16-16.9	.90	.90	.85	.75	.90	.....	.85	.85	.....	.75	.75	.75	.75	.85	.85
17-17.9	.94	.94	.85	.75	.94	.....	.85	.85	.....	.75	.75	.75	.75	.85	.85
18-18.9	.98	.98	.86	.75	.98	.....	.86	.86	.....	.75	.75	.75	.75	.85	.85
19-19.9	1.04	1.04	.87	.75	1.04	.....	.87	.87	.....	.75	.75	.75	.75	.85	.85
20-20.9	1.10	1.10	.89	.....	1.10	.....	.89	.90	.....	.82	.82	.79	.78	.90	.90
21-21.9	1.16	1.16	.91	.....	1.16	.....	.91	.98	.....	.90	.90	.86	.81	.97	.97
22-22.9	1.22	1.22	.94	.....	1.22	.....	.94	1.06	.....	1.00	1.00	.93	.85	1.04	1.04
23-23.9	1.28	1.28	.....	.....	1.28	.....	.97	1.14	.....	1.11	1.11	1.00	.89	1.11	1.11
24-24.9	1.34	1.34	.....	.....	1.34	$1.34	1.01	1.22	1.02	1.22	1.22	1.07	.93	1.18	1.18
25-25.9	1.40	1.40	.....	.....	1.40	1.40	1.05	1.30	1.08	1.33	1.33	1.14	.97	1.25	1.25
26-26.9	1.46	1.46	.....	.....	1.46	1.46	1.09	1.38	1.16	1.44	1.44	1.21	1.01	1.32	1.32
27-27.9	1.52	1.52	.....	.....	1.52	1.52	1.13	1.46	1.24	1.55	1.55	1.28	1.05	1.39	1.39
28-28.9	1.58	1.58	.....	.....	1.58	1.58	1.17	1.54	1.32	1.66	1.66	1.35	.....	1.46	1.46
29-29.9	1.64	.....	.....	.....	1.64	1.64	1.21	1.62	1.40	1.77	1.77	1.42	.....	1.53	1.53
30-30.9	1.70	.....	.....	.....	1.70	1.70	1.25	1.70	1.48	1.88	1.88	1.49	.....	1.60	1.60
31-31.9	1.76	.....	.....	.....	.....	1.76	.....	.....	1.60	1.99	1.99	1.56	.....	.....	1.67
32-32.9	1.84	.....	.....	.....	.....	1.84	.....	.....	1.72	2.10	2.10	1.63	.....	.....	1.73
33-33.9	.....	.....	.....	.....	.....	1.92	.....	.....	1.84	2.21	2.21	1.70	.....	.....	1.79
34-34.9	.....	.....	.....	.....	.....	2.00	.....	.....	1.96	.....	2.32	1.77	.....	.....	1.85
35-35.9	.....	.....	.....	.....	.....	2.08	.....	.....	2.08	.....	.....	1.84	.....	.....	1.92
36-36.9	.....	.....	.....	.....	.....	2.16	.....	.....	2.16	.....	.....	.....	.....		
37-37.9	.....	.....	.....	.....	.....	2.24	.....	.....	2.24	.....	.....	.....	.....		
38-38.9	.....	.....	.....	.....	.....	2.34	.....	.....	2.34	.....	.....	.....	.....		
39-39.9	.....	.....	.....	.....	.....	2.44	.....	.....	2.44	.....	.....	.....	.....		
40-40.9	.....	.....	.....	.....	.....	2.54	.....	.....	.....	.....	.....	.....	.....		
41-41.9	.....	.....	.....	.....	.....	2.64	.....	.....	.....	.....	.....	.....	.....		
42-42.9	.....	.....	.....	.....	.....	2.74	.....	.....	.....	.....	.....	.....	.....		

*Union Oil Co. also purchases Long Beach crude and is maintaining the same gravity and price schedule in that field as the Standard maintains in Signal Hill and Huntington Beach fields. The Union also buys and pays the same prices as the Standard in the Rosecrans-Dominguez fields, on gravities ranging from 14 degrees to and including 24.9 degrees; and in Santa Fe Springs, on gravities ranging from 20 to and including 23.9 degrees.

REFINERS' and COMPOUNDERS' SUPPLIES

Following are the average market prices for the week on materials used by refiners and compounders f. o. b. shipping point as effective this date.

Refiners' Supplies

	June 21	June 14
Soda Ash light 58% bags.cwt.	-$1.38	-$1.38
Silicate of Soda 60 deg. drums.....cwt.	- 1.65	- 1.65
Sal Soda wks.....1.10-	1.25	1.10- 1.25
Caustic Soda 70% solid..cwt.	- 3.10	- 3.10
Chloride of Lime.....cwt. works.....	- 2.00	- 2.00
Sulphuric Acid 60 deg. tank cars f. o. b. shipping point.....per ton	10.50-11.00	10.50-11.00
Liquid Chlorine tank cars works.....lb.	- .04	- .04

Compounders' Supplies (Open Market)

Vegetable Oils—		
Linseed carloads spot.....lb.	11.5	11.3
June.....	11.5	11.3
Tanks, spot.....	10.5	10.3
Boiled carloads spot.....lb.	10.6	10.4
*Soya Bean spot, Bbls....lb.	13¼	13¼
Animal Oils—		
English Degras.....lb.	.05½	-.05½
Domestic Degras, bbls., carloads.....lb.	-.04¾	-.04¾
*Horse.....lb.	-.09¼	-.09½
Oleic Acid—		
Dist. Bbls.....lb..	09¾-.10¼	.09¾-.10¼
Saponified Bbls.....lb..	11 -.11½	.11 -.11½
Castor Oil—		
No. 1 Carlots, Bbls.....	-.12¾	-.12¾
No. 3 Carlots, Bbls.....	-.12¼	-.12¼
Lard Oils—		
Prime Winter Strained. to 1½ffa.40/45c.t.lb.	.19¼	.19
Extra Winter Strained. 2 to 4½ffa.40/45c.t.lb.	.15¾	.15½
Extra..... 4 to 5 ffa.40/45c.t.lb.	.13½	.13½
Extra No.1 7 to 10 ffa.40/50c.t.lb.	.12¾	.12½
No. 1.....15 to 18 ffa.40/45c.t.lb.	.12¼	.12¼
No. 2.....22 to 23 ffa.40/45c.t.lb.	.12	.12
Prime Edible Tallow under 1½ffa. 40/45c.t.N.Y.....lb..	-10¾	-10½
Tallow acidless.....lb.	-.12¼	-.12
Lard Stearine.....lb.	nominal	nominal
Oleo Stearine.....lb.	-.15¼	-.15
Neatsfoot Oil—		
Pure.....bbls.-lb.		.16¼ .16¾
Extra.....do lb.		.12¾ .12¼
No. 1.....bbls.-lb.		.12¾ .12¾
Cold pressed.....lb.		.19¼ .19¼
Fish Oils—		
Menhaden Oil		
Light pressed.....gal.	-.65	-.65
White.....gal.	-.67	-.67
Yellow bleached.....gal.	-.70	-.70
*Herring tank cars coast.....gal.	-.50	-.50
Whale, extra winter bleached.....gal.	-.82	-.82
Seal.....gal.		nominal
Naval Stores—		
Turpentine, N. Y.....gal.	.87	.86
Turpentine†.....gal.	.80¾	.80
Rosin, B. N. Y.....bbl.	12.00	12.00
Rosin, F. N. Y.....bbl.	13.95	13.40
Rosin, B†.....bbl.	10.50	10.50
Rosin, F†.....bbl.	12.45	11.90
Rosin Oil 1st run.....gal.	.67	.67
Rosin Oil 2nd run.....gal.	.69	.69
Pine Tar—		
Kiln Burnt.....bbl.	14.50	14.50
Retort.....bbl.	15.50	15.50
Alcohol—Denatured		
Formula 5		
Bbls.....gal.	.34	-34
Drums.....gal.	-28	-28

†Savannah, Ga. market.
*Nominal.

May Gasoline Stocks Show Large Drafts

NEW YORK, June 19.—A decrease of 4,330,000 barrels in pipe line and tank farm stocks of crude during May east of the Rocky Mountains, as compared with a decrease of 2,467,000 barrels in April, is indicated in the May preliminary report of the American Petroleum Institute which it compiles from returns of representative companies.

Domestic crude stocks at refineries, covering approximately 75 per cent of the operating capacity east of California, increased 1,929,000 barrels during May, as compared with a gain of 1,674,000 barrels during April.

Gasoline stocks east of California during May showed a draft more than seven times as large as in April. In May stocks decreased 113,022,000 gallons, as compared with April's decrease of only 16,212,000 gallons.

Stocks of all other refined products increased in May. Kerosene stocks increased 21,882,000 gallons; gas and fuel oil, 43,260,000 gallons, and lubricating oil, 3,696,000 gallons.

Controls California Casinghead Output

LOS ANGELES, June 21.—What is viewed by many western oil marketers as a most significant movement and one to have a far-reaching effect on the future gasoline market on the Pacific Coast, was the purchase of the Pacific Gasoline Co. by the Standard Oil Co. of California.

Pacific Gasoline was the largest independent producer of natural gasoline in the west, being second only to the Standard itself in daily output. The acquisition of this company will now give the Standard complete control of the natural gasoline supply, which will fortify the company's manufacture of motor gasoline in the future.

It is also considered an indication that the Standard is not going in for cracking gasoline in the immediate future, but will continue to market as heretofore a blended product. With the resources of the Pacific Gasoline the Standard will have twice the volume of natural gasoline of any other major oil company in the state and will control better than two-thirds of the entire production of the blending fluid which is produced in California.

Over 650,000 barrels of crude, 68,000 barrels of fuel oil and 80,000 barrels of gasoline left Los Angeles harbor last week for the East Coast of the United States. The total of these shipments was 799,276 barrels.

About 264,000 barrels of oil left for Atlantic Foreign ports and 256,000 barrels of various oils were shipped to Pacific Foreign ports during the week.

Benzol Prices Unchanged

NEW YORK, June 21.—Consumption of motor benzol is steadily gaining while on the other hand production is declining. There were no price fluctuations during the week and spot motor benzol in tank cars at the ovens is held at 25 cents a gallon. Stocks are small, but leading marketers do not look for any change unless gasoline tank wagon market prices advance.

There is a heavy contract movement to motor fuel blenders, which prevented stocks from accumulating. Demand for pure and 90 per cent benzol is more spirited and offerings are smaller.

Pennsylvania Market Continues Slow

CLEVELAND, June 21.—Not much activity could be located in the western Pennsylvania field during the past week even with lower prices as an attraction. U. S. Motor gasolines is quoted today at 14 to 14½ cents but inquiries are light. It is reported that the carry over business from May will help to make a fairly good showing for June. Kerosene quotations have dropped to 11 and 11¼ cents with brokers offering 10½ cents. Fuel oils and lube stocks have not changed materially during the past week. Bright stocks continue scarce. Wax is in demand with quotations of 5⅜ to 5½ cents. Petrolatums have been steady.

Eastern and Central Kentucky Markets

ASHLAND & LEXINGTON, KY. June 21.—Easier prices are noted in the Kentucky districts during the past week. Gasolines have dropped from ½ to ¾c on all grades. Shipments are normal and refiners are optimistic for the future. Quotations on kerosene are lower this week and stocks at refineries are increasing. Today's prices are:—

	Eastern	Central
58-60 gasoline	14	13½
60-62 gasoline	14¼	14
64-66 gasoline	14½	14¼
68-70 gasoline	14¾	....
41-43 w.w. kerosene	10	9¼
24-26 fuel oil	5⅛	....
Gas oil	6	6

PORTLAND, ME.—Ballard Oil & Equipment Co. has opened an office and sales rooms here and has added to its line the Rice electric refrigerator, made by Rice Products, Inc., New York, according to E. P. Hacker, vice president of the former company.

OIL STOCKS AND FINANCES

National Petroleum News

Lion Oil Refining Co. Increases Earnings

CLEVELAND, June 21.—Lion Oil Refining Co. reports income of $424,120 for the first quarter of 1926 after interest but before depletion, depreciation and federal income taxes, compared with $393,292 in the first quarter of 1925. Condensed income accounts for the two quarters compare:

	1926	1925
Sales	$2,059,570	$1,350,580
Oper. profit	444,854	415,290
Other income	8,624	11,728
Total inc.	$ 453,478	$ 427,018
Interest chgs.	29,358	33,726
Net income	$ 424,120	$ 393,292

In 1925 Lion netted $1,287,012 after all charges equivalent to $6.42 a share on the 200,000 shares of no par common stock, compared with $1.29 a share in 1924. Condensed income accounts for the two years follow:

	1925	1924
Sales	$7,479,597	$5,014,752
Costs, expenses	4,962,198	3,889,314
Operating profit	$2,517,399	$1,125,438
Other income	68,220	39,869
Total income	$2,585,619	$1,165,307
Interest	131,349	198,979
Deprec., deplet., etc.	1,036,070	676,320
Federal taxes	131,188	31,439
Net income	$1,287,012	$ 258,569

The balance sheet of March 31, 1926, and Dec. 31, 1925, compare:

ASSETS

	Mar. 31	Dec. 31.
Cash	$ 266,659	$ 197,305
Acc'ts, notes rec.	518,653	403,282
Inventories	968,010	1,221,153
Prepaid expenses	59,731	78,356
Property, equip.	*7,492,741	3,555,539
Plant, pipe lines, tank cars, etc.		3,639,832
Total	$9,305,796	$9,095,467

*Total fixed assets.

LIABILITIES

Notes, acc'ts payable	$ 670,735	$ 716,323
Reserves, accruals	238,516	265,758
Car trust notes	25,650	29,700
Mortgage bonds	750,000	750,000
Deferred liab.	37,822	40,371
Deprec., deplet.	2,118,594	2,058,982
Capital & surplus	5,464,476	5,234,333
Total	$9,305,796	$9,095,467

Union's Inventory Loss Given as $4,300,000

CLEVELAND, June 17.—Balance sheet of Union Oil Co. of California as of March 31 which gives effect to losses in the fires at the San Luis Obispo and Stewart tank farms on April 7 and 8 and the receipt of insurance moneys as agreed to by underwriters, shows a decrease of $4,300,000 in oil inventories and an increase of more than $5,000,000 in the cash account in which is included the anticipated insurance moneys.

The company also has set up a "drilling expenditures" reserve. This formerly was deducted from "oil wells and development" which account in the March 31 balance sheet shows an increase of $21,000,000 over the account on Dec. 31. The surplus account of March 31 shows a small decline since Dec. 31. The two balance sheets compare:

ASSETS

	March 31	Dec. 31
*Oil lands, leases	$ 95,881,463	$ 95,572,755
Wells, development	44,799,973	23,707,641
Gasoline plants	2,827,306	2,777,405
Pipe Lines, storage	14,922,317	16,249,277
Marine equipment	13,655,972	13,488,366
Refineries	13,697,549	13,418,285
Marketing stations	22,215,534	22,004,833
Total property	$208,000,114	$187,218,562
Investments	872,862	997,925
Cash	‡12,162,814	6,893,349
U. S. Securities	7,600,000	7,000,000
Bills receivable	184,627	196,269
Accts. receivable	7,602,674	6,806,294
Employes' stock subs	486,387	579,003
Crude, refined oil	**24,412,087	29,700,436
Materials, supplies	3,482,591	3,826,663
Deferred charges	590,844	598,174
Total	$265,395,001	$243,816,675

LIABILITIES

Capital stock	$ 94,553,450	$ 94,506,225
Employes' stock subs	462,850	514,225
Mortage debt	24,672,194	24,596,322
Acc'ts payable	4,374,304	4,677,317
Tax reserve	3,319,832	3,066,251
Accrued interest	163,328	353,424
Drilling expenditures†		
Deprec., depl., etc.		84,403,310
Ins. and contingencies	1,086,465	575,172
Surplus	31,156,188	31,699,602
Total	$265,395,001	$243,816,675

*Does not include $22,497,091 appreciation of new discovery areas subsequent to March 1, 1913.

‡Includes insurance moneys underwriters are obligated to pay by July 5, 1926.

**Oil in storage amounted to 18,808,776 after deducting loss in fires.

†Formerly deducted from "Oil wells and development."

Cities Service Income Grows

NEW YORK, June 19.—Gross earnings of Cities Service Company for the 12 months ended May 31 were $21,202,592 compared with $17,971,738 in the 12 months ended May 31, 1925. In the same 12 months net earnings amounted to $20,369,216 compared with $17,218,106. Net to stock and reserves was $17,826,678, compared with $15,283,682 for the 12 months ended May 31, 1925. Net to common stock and reserves was $12,300,599 equivalent to $3.26 a share on the actual amount of $20 par value common stock outstanding, compared with $10,130,326 for the 12 months ended May 31, 1925. Percentage earnings on Cities Service common stock outstanding increased from 13.91 for 12 months ended May 31, 1925, to 16.32 for 12 months ended May 31, 1926.

California Petroleum Profits Increase

CLEVELAND, June 19.—California Petroleum Corp. reports for the first quarter of 1926 net profits amounting to $1,246,885 after all charges including estimated federal income taxes. This sum was equivalent to 69 cents a share on outstanding capital stock. In the first quarter of 1925 net profits were equivalent to 61 cents a share. Consolidated income accounts for the two quarters compare:

	1926	1925
Gross earnings	$6,909,510	$4,769,530
Expenses	3,391,198	1,862,008
Net earnings	$3,518,312	$2,907,522
Depreciation	771,646	534,087
Depletion	390,925	214,710
Losses	180,483	292,266
Intangible development expense	656,436	501,206
Interest, discount	143,738	150,514
Federal taxes	128,199	109,000
Net profits	$1,246,885	$1,105,739

The company reports carrying in storage 6,300,780 barrels of crude oil, gasoline and other products, an increase of 478,684 barrels since Dec. 31.

Shaffer Earnings Are Larger

CHICAGO, June 19.—Net operating earnings of the Shaffer Oil & Refining Co. for April amounted to $763,832, or 81.04 per cent more than in April, 1925. Net operating earnings in the 12 months ended April 30 were 63.12 per cent larger than in the 12 months ended April 30, 1925. Condensed earnings statements for the two Aprils follow:

	1926	1925
Gross earnings	$1,997,408	$1,326,006
Operating expenses	1,323,576	953,810
Net operating earnings	673,832	372,196

Condensed earnings statements for the two 12-month periods follow:

	1926	1925
Gross earnings	$17,765,961	$11,939,306
Operating expenses	12,504,765	8,713,709
Net operating earnings	5,261,196	3,225,597

Sinclair Netting $3 a Share

NEW YORK, June 19.—Earnings of the Sinclair Consolidated Oil Corp. are reported to be at the rate of $3 a share after all charges.

Transactions In Oil Shares on New York Stock Exchange

1925 High	1925 Low	1926 High	1926 Low		Listed Capital	Par Value	Stocks	Div. Rate	Last Paid	Transactions week ended June 19 Sales	First	High	Low	Last	Ch'ge
.....	.....	29¼	24¼	(sh)	713,000	N.P.	Amerada Corp.	40cQ	Apr. 30, 26	18,800	27¾	28⅞	27½	28⅛	— ⅛
79¾	48	74	50	(sh)	200,000	N.P.	American Republics	.....	.....	400	58	58	50	50	—14
47¾	32	59½	44¾	$	56,000,000	$25	Associated Oil	50cQ	Apr. 26, 26	200	53½	53½	53½	53½	0
117½	95½	128¾	97		50,000,000	100	Atlantic Refining	.....	June 16, 24	39,600	120½	121⅞	116⅝	120	+1
117¾	113¾	118½	115¾		20,000,000	100	do pfd.	$1¾Q	May 1, 26	200	118½	118½	118½	118½	+1¾
33½	18¾	33½	23¾		25,000,000	25	Barnsdall Corp. A	50cQ	Apr. 2, 26	9,500	25¾	26¾	x25¼	25¾	+ ¼
30	16	29½	25¼		3,715,275	25	do B	50cQ	Apr. 2, 26	500	25	25	x24⅞	24⅞	+ ⅛
54⅛	25⅞	38¼	30⅝	$	45,040,125	$25	California Petroleum	50cQ	June 1, 26	36,800	32½	33¼	32½	33	+ ¾
70	42½	73	50		23,542,500	100	General Asphalt	.....	.....	81,500	68⅞	72¾	68¾	69⅞	+1¼
109	86¾	114¾	94⅞		7,416,000	100	do pfd.	$1¼Q	June 1, 26	4,200	108¼	112	108¼	110½	+2½
59⅛	42	67½	49½		29,429,550	25	General Petroleum	75cQ	June 1, 26	23,400	64½	64⅞	63½	64	— ⅜
85	59	72	50¼		25,000,000	100	Houston Oil	.....	.....	3,700	62½	64⅜	61	62¾	+ ¾
41¾	13½	34	19⅝	(sh)	500,000	N.P.	Independent Oil & Gas	25cQ	Apr. 12, 26	24,800	25⅛	25½	24¼	24½	0
14¾	5½	13¾	9	$	8,204,590	$10	Indian Refining	.....	Dec. 15, 20	2,800	10½	10⅝	9½	10	— ½
12⅝	6	12½	8		4,545,860	10	do ctfs.	.....	.....	700	9	9	8½	8½	— ½
110	77	104	90		2,296,400	100	do pfd.	.....	Dec. 15, 21	100	90	90	90	90	—15⅜
1½	¼	¾	¼		1,678,760	10	Kansas & Gulf	.....	.....	600	½	½	⅜	⅜	— ⅛
.....	.....	24½	19⅝	(sh)	4,000,000	N.P.	Lago Oil & Transport	.....	.....	109,400	23½	24½	22⅝	23½	+ ⅜
23¾	13⅝	19⅝	12	(sh)	1,131,216	N.P.	Louisiana Oil Refining	.....	.....	32,500	16¾	18¼	16¼	18¼	+1¾
35½	20¾	28⅞	20¾	(sh)	330,000	N.P.	Maracaibo Oil	.....	.....	11,700	25⅛	25¾	24	25⅛	+ ⅛
60⅛	32⅝	63⅜	49¼	(sh)	1,895,823	N.P.	Marland Oil Co.	$1Q	Mar. 31, 26	299,100	58¾	63⅜	x58¾	60¾	+3½
250	225	.....	.....	$	45,942,800	$100	Mexican Petroleum	$3Q	Apr. 20, 26	.....	.....	.....	.....	.....	.....
.....	.....	.....	.....		12,000,000	100	do pfd.	$2Q	Apr. 20, 26	.....	.....	.....	.....	.....	.....
22½	29	12⅜	6	(sh)	945,939	N.P.	Mexican Seaboard	.....	Nov. 15, 24	1,900	8	8¼	7½	8	+ ½
38	25¾	37	28	(sh)	1,357,800	N.P.	Mid-Continent Petroleum	.....	Aug. 1, 23	34,000	32¼	33½	x31⅜	31¾	— ⅜
94¾	83	100	90	$	6,718,000	$100	do pfd.	$1¾Q	June 1, 26	100	99	99	99	99	— ¾
3¾	⅝	2½	1¼		25,415,540	10	Middle States	.....	July 1, 23	5,700	1⅜	1½	1⅜	1⅜	0
1½	1½	1⅜	⅞		4,384,680	....	do ctfs.	.....	.....	500	⅞	⅞	⅞	⅞	0
78½	51⅜	83¼	51	(sh)	3,500,000	N.P.	Pacific Oil	$1.50S.A.	Jan. 20, 26	10,800	1⅜	1½	1⅜	1½	0
83⅞	59½	76½	56⅛	$	48,307,400	$50	Pan American P. & T.	$1.50Q	Apr. 20, 26	7,300	72½	74⅜	72½	72½	+ ½
84½	60⅛	78⅜	56⅞		91,025,100	50	do B	$1.50Q	Apr. 20, 26	135,200	73⅝	75¼	72⅞	73½	+ ⅛
49¾	37¼	46	34	(sh)	400,000	N.P.	Pan American Western B	50cQ	Apr. 30, 26	12,600	39⅛	39⅞	38	39	+ ¾
6¼	2¾	3²	4½	(sh)	198,770	N.P.	Panhandle P. & R.	.....	.....	120,700	22¾	32	22⅝	30½	+7⅞
60½	37	99⅜	51	$	2,955,200	$100	do pfd.	.....	July 2, 23	1,400	88	99⅜	88	99	+12⅞
47⅜	36¼	48¾	40	(sh)	2,406,692	N.P.	Phillips Petroleum	75cQ	Apr. 1, 26	111,800	46	47⅜	x45⅝	46⅝	+1⅜
3¼	1¼	1⅞	¾	$	29,622,925	$25	Pierce Oil Corp.	.....	.....	3,200	¾	⅞	¾	¾	— ⅛
40	20¼	27⅜	15½		15,000,000	100	do pfd.	.....	Feb. 1, 22	2,300	15⅝	16	15½	16	—3
8¼	4½	7	5¾	(sh)	2,500,000	N.P.	Pierce Petroleum	.....	.....	2,500	4⅛	4⅛	4	4	— ⅛
32⅝	12½	17½	11	$	11,467,850	$50	Producers & Refiners	.....	Sept. 15, 23	700	13¾	14	12⅞	14	+ ⅛
47⅝	27	35	30¾		2,845,350	50	do pfd.	.....	May 1, 25	400	32½	34¾	32½	34¾	0
53¾	25⅛	31	25⅜		75,959,250	25	Pure Oil Co.	87½cQ	June 1, 26	27,600	28	28⅝	27¾	28⅛	+ ⅛
108½	103	111¼	106		13,000,000	100	do 8% pfd.	$2Q	Apr. 1, 26	300	110	110¾	110	110⅜	+ ⅜
57⅜	48¼	57⅜	50	(sh)	691,922	13.40	Royal Dutch, N. Y. shares	$1.339	Jan. 29, 26	4,200	53⅛	53⅜	52½	52¾	— ⅝
49	39½	48⅝	41	(sh)	93,345	£2	Shell Transport & T.	96½c	Jan. 22, 26	.....	.....	.....	.....	.....	.....
28⅜	21⅝	28⅜	24	(sh)	10,000,000	N.P.	Shell Union Oil	35cQ	Mar. 31, 26	28,200	25⅝	26	25½	25⅜	+ ⅜
106¼	99½	107½	103	$	20,000,000	$100	do pfd.	$1½Q	May 15, 26	500	107⅛	107½	107⅛	107½	+1½
28½	17¾	28⅝	18		7,207,620	10	Simms Petroleum	50cS.A.	Jan. 2, 26	37,800	19½	20⅝	x19⅜	19¾	+ ½
24⅜	17	24⅜	19⅜	(sh)	4,489,887	N.P.	Sinclair Consolidated	.....	May 31, 24	69,500	23¾	23¼	22½	22⅞	+ ⅛
94⅛	78¾	99	90	$	17,852,200	$100	do pfd.	$2Q	May 15, 26	2,400	98⅛	99	97	98⅞	+ ⅞
32½	21¾	35¼	26⅝		23,988,590	25	Skelly Oil Co.	50cQ	June 15, 26	30,900	34¼	34⅞	33¾	34	— ½
.....	.....	59¾	52⅝	(sh)	13,016,434	N.P.	S.O. California (new)	50cQ	June 15, 26	35,700	58⅜	59⅛	58¼	58⅞	+ ⅜
47½	38⅜	46⅜	40¾		515,109,675	25	S. O. New Jersey	25cQ	June 15, 26	85,600	45	45½	44¼	44⅜	— ½
119	116¼	119¾	116¼		199,972,900	100	do pfd.	$1¾Q	June 15, 26	5,200	117½	118	117	117⅛	— ⅜
48⅜	38⅜	41⅜	30⅜	(sh)	1,103,931	N.P.	Sun Oil	25cQ	June 15, 26	3,100	32⅝	33¼	32⅞	33⅛	+ ¾
6⅛	2	4¼	2	(sh)	1,121,368	N.P.	Superior Oil Corp.	.....	Dec. 20, 20	9,000	2½	2¾	2⅛	2⅛	— ⅛
55	42¾	55¼	48	$	164,450,000	$25	The Texas Co.	75cQ	Mar. 31, 26	125,600	54½	55¼	54⅝	55	+ ½
23¾	10⅞	19½	12⅝		8,380,340	10	Texas Pacific Coal & Oil	.....	June 30, 23	9,800	14½	15	14⅛	14⅝	+ ⅜
36⅞	30¼	39¼	30¼	(sh)	2,137,570	N.P.	Tide Water Oil Co.	37½c	Mar. 31, 26	2,000	34	34	x32½	33⅝	— ¼
101	99	103	90	$	20,672,900	$100	do 5% pfd.	$1.25Q	May 15, 26	200	94	94	93⅞	94	0
5⅜	3¼	4¾	3	(sh)	3,742,029	N.P.	Transcontinental Oil	.....	.....	37,100	3⅝	4⅛	3½	4⅛	+ ⅛
43⅜	33	56	37¼	$	40,480,800	$25	Union Oil of California	50cQ	May 10, 26	149,600	44¼	56	43⅝	55½	+11¾
184	96¼	94⅞	80		24,423,300	100	Union Tank Car Co.	$1¼Q	June 1, 26	900	93⅛	94⅞	93	94½	+2
117⅜	113¼	117	113¼		12,000,000	100	do pfd.	$1¾Q	June 1 26	500	115	117	115	117	+2
31¾	25½	29¼	25⅛	(sh)	490,000	N.P.	White Eagle Oil & Refining	50cQ	Apr. 20, 26	7,100	27¾	28¼	27⅝	27¾	0

*New High †New Low xEx-dividend Total Sales 1,824,400

Pittsburgh Stock Exchange

1925 High	1925 Low	1926 High	1926 Low	Par Value	Stocks	Transactions Week Ended June 18 Sales	First	High	Low	Last	Ch'ge
.....	.....	6⅝	6¾	N.P.	Andes Petroleum	.....	.....	.....	.....	.....	.....
8¼	5¾	7	5¾	$10	Arkansas Nat. Gas.	5,165	6	6	5¾	5¾	— ¼
73¼	69¼	.....	.....	N.P.	Columbia Gas	.....	.....	.....	.....	.....	.....
18	14½	17	12½	$10	Devonian Oil	500	14	14½	13¾	14½	+ ¼
112¾	105⅜	115	112	$100	DuquesneLt.7%pfd.	10	114½	114½	114½	114½	+ ½
95	90	.....	.....	100	Fayette County Gas.	.....	.....	.....	.....	.....	.....
.....	.....	10	5½	N.P.	HoustonGulfGas(w.i.)	3,036	6½	8	6¼	8	+1½
.....	.....	33¼	30	25	Lone Star Gas Corp.	3,089	32	32¾	30⅝	31½	— ½
37¼	31	37	33¾	25	Ohio Fuel Corp.	5,813	36⅞	37	36	36¼	— ⅝
34	26	34	28	25	Oklahoma Nat. Gas.	1,850	30¼	30¼	29	29¼	—1½
8¾	5	5¾	4¼	5	Pittsburgh O. & G.	.....	.....	.....	.....	.....	.....
9¾	6	10	8	10	Salt Creek Cons.	550	8⅞	9¼	8¾	8¾	— ⅛
13¾	8½	10	8½	10	Tidal Osage	.....	.....	.....	.....	.....	.....

Pittsburgh Curb Market

1925 High	1925 Low	1926 High	1926 Low	Par Value	Stocks	Transactions Week Ended June 18 Sales	First	High	Low	Last	Ch'ge
2¼	.60	3¾	2¼	$ 5	Colombia Synd.	.....	.....	.....	.....	.....	.....
.60	.15	15	15	5	Duquesne Oil	.....	.....	.....	.....	.....	.....
9	5½	.....	.....	10	Forest Oil	.....	.....	.....	.....	.....	.....
93¾	64	91½	85	25	Gulf Oil Corp.	.....	.....	.....	.....	.....	.....
12½	5¼	12	7½	N.P.	Leonard Oil & Dvlp.	.....	.....	.....	.....	.....	.....
.....	.....	1¾	1¾	N.P.	Mountain & Gulf	.....	.....	.....	.....	.....	.....
2¾	1¾	.....	.....	1	Oklahoma Eastern	.....	.....	.....	.....	.....	.....
.47	.20	.20	.15	10	Omar O. & G.	.....	.....	.....	.....	.....	.....
.....	.....	2	1¾	5	Pittsburgh Oil Dev.	.....	.....	.....	.....	.....	.....
27½	25	33	26	10	Plymouth Oil	700	31¾	31¾	31¾	31¾	+ ¾
7	3	5½	3	5	States Oil	.....	.....	.....	.....	.....	.....
4	1¾	3¼	2¼	$ 1	Texon Oil & Land	265	3	3	3	3	+ ⅛
11	9	9½	8	10	Tidal Osage	.....	.....	.....	.....	.....	.....
.....	.....	42¾	41	N.P.	Waverly Oil Wks. A	.....	.....	.....	.....	.....	.....

*New High †New Low xEx-Dividend

NEW YORK CURB BONDS

Week Ending June 18

	High	Low	Last	Ch'ge
Atl. Gulf & W I 5s '59	69¾	68⅛	69¾	+1¼
Cities Serv. 6s '66	93¼	93⅛	93¼	0
Cities Serv. 6s new	93¼	93⅛	93¼	0
Cities Serv. 7s "D" '66	105	104¾	104⅞	+ ⅜
Galena S O 7s	92½	91⅜	92¼	— ¾
General Pet. 6s '28	101½	101¼	101¼	0
Gulf Oil 5s '37	101	101	101	+ ½
Indepen. Oil 6½s '31	98⅝	98	98	— ¾
Pan Amer. Pet. 6s '40	101⅛	100¾	100¾	0
Pure Oil 6½s '33	103½	103	103½	+ ⅜
S O N Y 6½s '33	106½	106	106½	+ ⅜
Sun Oil 5½s '39	100½	100	100¼	+ ¼
Tidal Osage 7s '34	104	103½	104	+ ¼
Trans. Cont. Oil 7s '30	92	91	92	0
United Oil Prod. 8s '31	32	32	32	0

NEW YORK BONDS

Week Ending June 18

	High	Low	Last	Ch'ge
Amer. Rep. Deb. 6s	101⅝	99⅞	101⅝	+1¾
Associated Oil gold 6s	103	102⅞	102⅞	— ⅛
Atlantic Refg. deb 5s	102¼	101½	101½	—1
Barnsdall Corp. 6s	99⅞	99½	99⅝	— ⅛
Cal. Petrol sf 6½s	103⅞	103½	103½	— ⅛
Empire Gas & Fuel 7½s	103	102½	102⅝	— ⅛
Empire Gas & Fuel 6½s	97¾	97½	97⅝	+ ⅛
Gen. Asphalt 6s	105	105	105	0
Gen. Petroleum 5s	100¾	100⅜	100½	— ⅛
Humble Oil & Refg. 5½s	102⅞	102⅜	102⅝	— ⅛
Mid-Cont. Pet. 6½s	104½	104	104¼	+ ¼
Pan-Amer. P. & T. 7s	106	105¾	106	+ ⅛
Pan-Amer. P. & T. 6s	109¾	108¼	108¼	— ⅜
Pierce Oil deb 8s	107	107	107	0
Prod. & Refnrs. 8s	111¼	111	111	— ¼
Sinclair Con. Oil Col. 7s	98⅜	97¾	98⅛	0
Sinclair Con. Oil Con. 6½s	98¾	98¼	98⅜	+ ⅛
Sinclair Con. Oil 6s	108¼	105½	106¾	—1¼
Sinclair Crude Oil 6s	101¾	101⅛	101⅛	0
Sinclair Pipe Line sf 5s	91⅞	91	91⅜	+ ⅜
Skelly Oil 6½s	139½	136½	136½	—2
Union Oil of Cal. 6s-A	108¼	107⅝	108	0
Union Oil of Cal. 5s-C	98⅝	98⅜	98½	+ ⅛

Standard Oil Stock Traded in New York Curb Market

1925 High	1925 Low	1926 High	1926 Low		Outstanding Capital	Par Value	Stocks	Div. Rate	Last Paid	Transactions week ended June 18 Sales	First	High	Low	Last	Ch'ge
26¾	17⅝	19¼	16¾	£	4,000,000	£1	Anglo American	60¾cS.A.	May 27, 26	5,000	18½	18¾	18¼	18¾	— ⅛
4½	1⅜	2¼	1⅜	(sh)	500,000	N.P.	Atlantic Lobos	.....	.....	800	1⅜	1½	1⅜	1½	0
12¾	8	4½	3¼	$	10,000,000	$10	do pfd	.....	.....	200	3⅝	3⅝	3¼	3⅝	— ⅜
240	205	255	226		1,000,000	100	Borne Scrymser	‡84S.A.	Apr. 15, 26	10	235	235	235	235	+4
72	53½	59½	49		10,000,000	50	Buckeye Pipe Line	$1Q	June 15, 26	300	51½	51½	51	51	— ⅜
74	48½	73¾	65		3,000,000	25	Chesebrough Mfg	75cQ	Mar. 31, 26	1,100	69½	71½	69½	71½	+1⅜
115	110	.....	.....		1,000,000	100	do pfd	$1¾Q	Mar. 31, 26	.....	.....	.....	.....	.....	.....
31½	21¾	25⅞	19½		34,914,280	10	Continental Oil	25cQ	June 15, 26	25,200	20½	21	20½	20⅞	+ ⅜
17½	10	16	13¾		1,500,000	25	Crescent Pipe Line	.....	Sept. 15, 23	200	13¾	13¾	13¾	13¾	0
156	132	137	108		3,000,000	100	Cumberland Pipe Line	$3Q	June 15, 26	30	109	109	109	109	+ ¾
96	61	68¾	47¾		5,000,000	100	Eureka Pipe Line	$1Q	May 1, 26	50	52	52	52	52	+ ½
68½	23½	32½	17		16,000,000	100	Galena Signal Oil	.....	June 30, 25	325,425	20	20½	17	20	— ⅛
105	88	94½	70		4,000,000	100	do new pfd	$2Q	Mar. 31, 26	220	78	78	75	75	—8
114	95	97½	70		2,000,000	100	do old pfd	$2Q	Mar. 31, 26	280	78	78	73	74	—6
95	42¼	68¾	53½		72,916,650	25	Humble Oil & Refining	30cQ	Apr. 1, 26	21,500	64¾	66½	x63¾	63¾	—1⅝
154½	127	144½	131		20,000,000	100	Illinois Pipe Line	$6S.A.	Dec. 31, 25	100	137½	137½	132	132	—2
39¾	27¾	38¾	31½	sh	6,491,852	N P	Imperial of Canada (new)	25cQ	June 1, 26	9,400	36¼	36½	35¾	35¾	— ½
84	57¾	70	58	$	5,000,000	50	Indiana Pipe Line	$1Q	May 15, 26	200	66	66½	66	66½	— ½
35⅜	22⅛	35¼	28¾	sh	7,118,138	N P	International Petroleum	25c	Feb. 15, 26	26,100	33¾	34⅜	33½	33⅝	— ⅜
25⅜	16½	20⅝	14½	$	6,362,500	$12½	National Transit	25cS.A.	June 15, 26	700	14¾	15	14¾	14⅞	— ⅛
79	49¾	51⅝	39		5,000,000	100	New York Transit	$1Q	Apr. 15, 26	.....	.....	.....	.....	.....	.....
88	67½	80½	70¾		4,000,000	100	Northern Pipe Line	$3S.A.	Jan. 1, 26	.....	.....	.....	.....	.....	.....
75¼	60¼	67⅜	57½		60,000,000	25	Ohio Oil Co	50cQ	Mar. 31, 26	2,100	59	59	57¾	57⅞	— ⅛
44½	19	23	15		10,000,000	25	Penn Mex Fuel	50c	May 21, 25	300	20½	21	20½	21	+2
65½	45⅞	60¼	48		60,000,000	25	Prairie Oil & Gas	50cQ	May 31, 26	13,100	54½	55⅜	54	54	— ⅜
129¾	106	127½	122½		81,000,000	100	Prairie Pipe Line	$2Q	Apr. 30, 26	850	125½	125½	125	125½	+ ¼
254	200	212	184½		4,000,000	100	Solar Refining Co	$5S.A.	June 15, 26	20	190	191	190	191	+6
108	68	74½	61¼		10,000,000	100	Southern Pipe Line Co	$1Q	Mar. 1, 26	.....	.....	.....	.....	.....	.....
197	139	197	152		20,000,000	100	South Penn Oil Co	$1.50Q	Mar. 31, 26	.....	.....	.....	.....	.....	.....
47½	45	50	37		20,000,000	25	do new	.....	.....	700	38¼	38¼	37½	37½	— ¾
84	50	56	49		3,500,000	100	South West Pa. Pipe Line	$1Q	Apr. 1, 26	.....	.....	.....	.....	.....	.....
70¾	59½	70¼	61½	$	223,758,258	$25	S. O. Indiana	62½cQ	June 15, 26	19,400	64¼	65¼	64⅛	64½	+ ¼
46	30⅝	36½	25		8,000,000	25	S. O. Kansas	.....	June 16, 24	1,400	26¾	27	26	26½	0
137	114¾	134⅜	108		16,864,434	25	S. O. Kentucky	$1Q	Mar. 31, 26	1,600	120⅜	122½	x120⅜	122	+1½
270	231	275	183		4,500,000	100	S. O. Nebraska	$5S.A.	Dec. 19, 25	200	49	49	49	49	+ ½
.....	.....	51⅝	45½		4,518,000	25	do new w.i.	$1.25S.A.	June 21, 26	200	48	48	47¾	47¾	— ¾
48¾	40¼	47¼	30¾		227,535,300	25	S. O. New York	35cQ	June 15, 26	38,700	32½	32⅞	32	32	— ½
.....	.....	33¼	30¾		358,102,000	25	do new w.i.	.....	.....	39,700	32⅜	32¾	32	32	— ⅜
369	338	362	292½		14,000,000	100	S. O. Ohio	$2½Q	Apr. 1, 26	60	308	308	303	303	—4½
123	116	120	117		7,000,000	100	do pfd	$1¾Q	June 1, 26	60	118	118½	118	118½	+1
27	12	23	15¾		1,722,931	25	Swan-Finch Co	.....	Nov. 1, 19	20	20	20	20	20	+4
109½	80¼	112	95¾		61,919,950	25	Vacuum Oil Co	50cQ	June 19, 26	6,300	101¼	102¾	101¼	102	+1¼

New York Curb Market

1925 High	1925 Low	1926 High	1926 Low	Par Value	Stocks	Transactions week ended June 18 Sales	First	High	Low	Last	Ch'ge
11¾	2¼	14½	5	....	Amer. Maracaibo	40,700	6	7½	6	6¾	+ ¾
8¾	5	6¾	5¾	$10	Arkansas Nat. Gas	300	5¾	5¾	† 5¾	5¾	— ⅛
.....	.....	19¾	14⅜	N.P.	Beacon Oil	10,000	16½	17¾	16¼	17¼	+1⅜
47½	38	.....	.....	$25	British-American	.....	.....	.....	.....	.....	.....
10¾	2¾	22⅞	9½	25c	Carib. Syndicate	30,900	15⅜	16½	14⅞	15¾	+ ½
43	35	42⅛	37½	$20	Cities Service	6,900	41½	42	x41½	41¾	+ ¼
85⅛	80¼	86⅞	82¾	100	do pfd	1,400	86⅝	*86⅞	x86¼	86¼	— ⅜
8	7¼	7⅜	7¾	10	do pfd. B	300	7⅝	* 7⅝	x 7½	7½	+ ⅛
21⅜	17½	20⅞	19	10	do bankers' sh	400	20⅞	*20⅞	x20¾	20⅞	+ ⅛
2¾	.60	8½	2	N.P.	Colombia Syndicate	22,900	2⅞	3⅜	2⅞	3¼	+ ⅛
15	8¾	15¼	10	N.P.	Creole Syndicate	12,300	12	13¼	11⅞	13	+1
12¼	5	7⅜	1⅝	N.P.	Crown Central	20,100	2⅛	3⅜	2⅛	3⅛	+1⅛
7	2	3¾	2	N.P.	Derby Oil & Ref	1,100	2½	3½	2½	3½	0
27	10½	19	13	N.P.	do pfd	800	19	*19	18	18	+3
6	1¾	7½	3⅞	N.P.	Gibson Oil	61,000	5⅛	6	5⅛	5¾	+ ⅝
3¾	1¾	2	.63	N.P.	Gilliland v.t.c.	1,400	71	1¾	71	1¾	+1⅛
98¼	63½	98¾	82	$25	Gulf Oil Corp	8,100	85¾	88	x85¾	86⅛	+ ⅛
5⅞	2¼	4	2¼	N.P.	Kirby Petroleum	1,209	2¾	2⅞	2¾	2⅞	+ ¼
23¼	17⅞	25⅞	16¼	N.P.	Lago Oil & Trans. A	.....	.....	.....	.....	.....	.....
11¾	4¾	13	8½	N.P.	Lago Petroleum	.....	.....	.....	.....	.....	.....
13	6	12¾	5¾	N.P.	Leonard Oil & Dev.	5,100	8¾	8¾	8⅛	8⅛	— ⅜
25⅞	18	25¾	20	N.P.	Lion Oil Refining	10,700	23	24¾	22⅞	23¾	+1
4¾	1¾	2¾	2⅜	N.P.	Marland of Mexico	100	2⅝	2⅝	2⅝	2⅝	0
5¾	.56	5½	3¾	$10	Mexican-Panuco	7,000	4½	4¾	4½	4⅜	— ¼
2	1	1¾	1¾	1	Mountain & Gulf	1,100	1⅝	1⅝	1⅝	1⅝	0
26¼	18¾	26	23	10	Mountain Prod	10,900	25½	25¾	25	25	— ½
6¾	3⅝	6¾	5⅞	5	New Bradford	1,100	6¼	6¼	6¼	6¼	0
24¾	16½	6	2	10	New England Fuel	100	6	* 6	6	6	— ¼
19⅜	6¼	17	9⅜	1	New Mex. & Ariz	1,700	14½	14½	13¼	13¼	—1¼
12¾	8¼	17	8	25	New York Oil	.....	.....	.....	.....	.....	.....
37	14	36	34¼	25	Ohio Fuel Corp	.....	.....	.....	.....	.....	.....
2⅜	.90	2¾	.50	N.P.	Peer Oil Corp	2,100	55	55	50	50	—2
28¼	16	22¾	16¼	$10	Pennok Oil	4,000	18¼	18¾	x†16¼	16¼	—1¾
44½	16	38	14⅜	25	Red Bank Oil	1,200	30	31⅜	29	29	—1
33½	19	24⅞	14½	N.P.	Reiter-Foster	5,500	21½	22½	21½	21⅝	0
9½	3½	7½	4⅝	N.P.	Ryan Consolidated	2,900	7¼	7¼	6⅞	7	+ ⅛
9¾	6¾	10	8	$10	Salt Creek Cons	2,000	9	9	x 8⅞	9	0
35	24	36	28⅞	10	Salt Creek Prod	6,000	30⅞	32	30⅞	31	+ ⅛
3⅞	1	4	1⅝	5	Savoy Oil	800	4	*4	3½	3½	— ⅛
13¾	9	10	7⅝	10	Tidal Osage	100	8½	8½	8½	8½	+ ¼
10⅞	8	10	8¼	10	do non-voting	.....	.....	.....	.....	.....	.....
.....	.....	27	21	N.P.	Tide Water Assoc.	17,900	24⅜	25	24½	25	+ ⅝
.....	.....	99¾	97½	100	" " " pfd	500	97½	97½	97½	97½	0
4⅞	1¾	8	4¼	5	Venezuelan Pet	8,700	7⅝	7⅝	6¾	6¾	0
.....	.....	293¾	23¼	....	Warner-Quinlan w.i.	5,700	295⅛	*293¾	x28	285⅝	— ¾
31¾	22¼	36⅛	22	N.P.	Wilcox O. & G. new	31,100	297⅛	*361⅛	297⅛	353¾	+53¾
7	3¾	7¾	4⅜	N.P.	Woodley Petroleum	800	6½	6¾	6½	6¾	+ ¼

*New High †New Low xEx-Dividend.

Cleveland Stock Market

June 18

	Par	Bid	Asked	Last Sale
Canfield Oil Co.x	$100	.....	.....	107
do pfd.x	100	.....	95	100
Fred G. Clark Co	10	2⅜	4	3¼
National Refining Co	25	37½	38	38
do pfd.x	100	128¼	135	129½
Paragon Refining Co	25	.....	.....	7½
do pfd	100	60	65	55

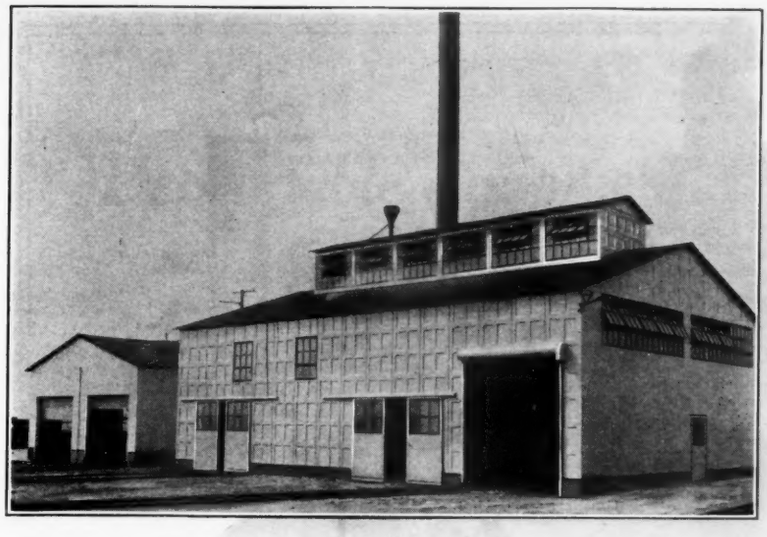
x—ex dividend.

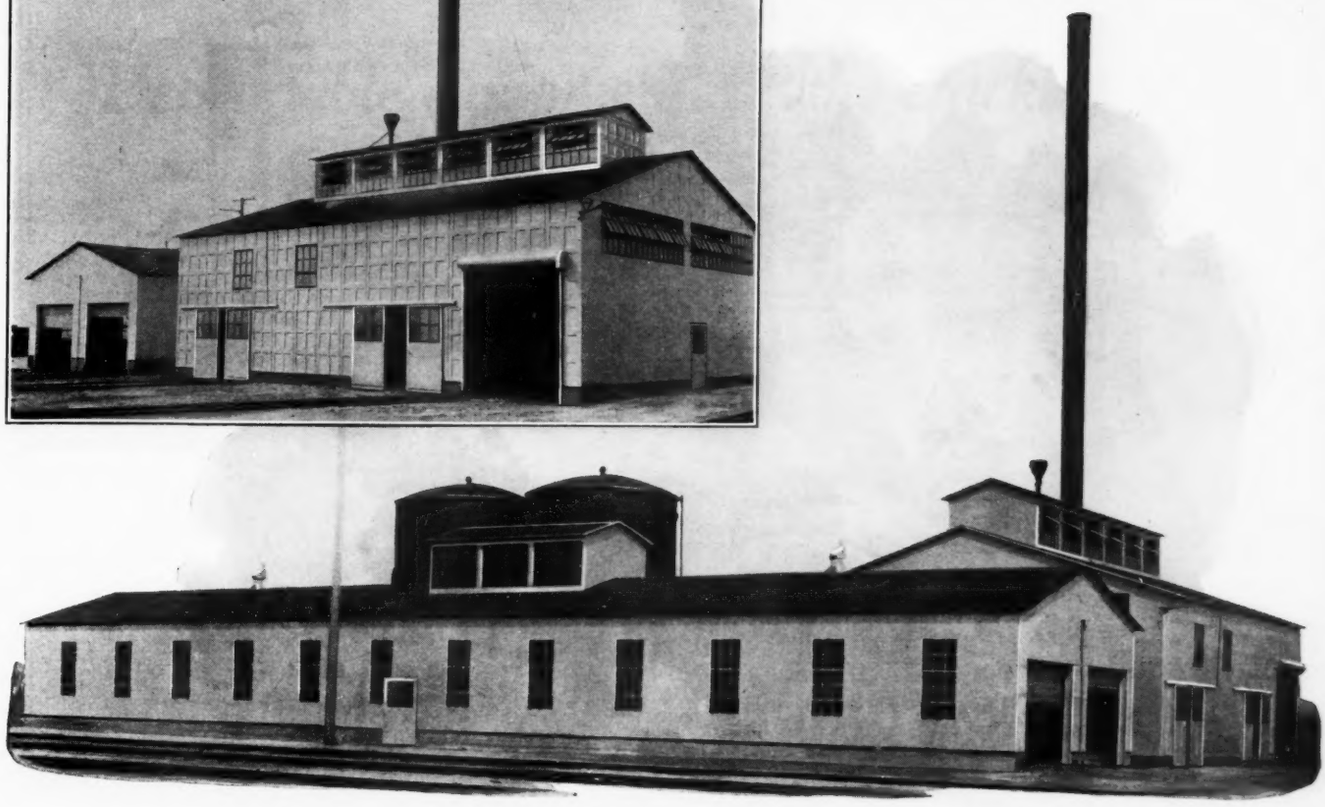
Oil Dividends

	Amt.	Payable	Stock of Record
Canfield Oil q	1½%	June 30	June 20
do pfd. q	1¾%	June 30	June 20
Cities Service m	½%	Aug. 1	July 15
do stock m	½%	Aug. 1	July 15
do pfd	½%	Aug. 1	July 15
do pfd. B m	½%	Aug. 1	July 15
Holly Oil q	25c	July 1	June 21
Lion Oil Refg. q	50c	July 27	June 30
Mountain & Gulf q	2 %	July 15	July 1
do extra	1 %	July 15	July 1
New Bradford q	12½c	July 15	July 1
New England Fuel q	25c	July 1	June 21
Prairie P. L. q	$2	July 31	June 30
Washington Oil q	$1	June 21	June 16

Old Plant to Operate

ROUNDUP, MONT., June 19—The old refinery of the Roundup Oil & Refining Co., built several years ago and operated for only a short while in its early history, has been purchased by Stanley Severs of Winnett, and will be operated on crude oil from the Cat Creek field.





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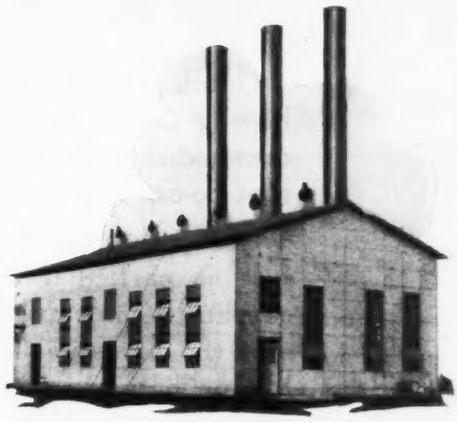

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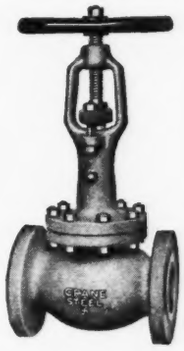

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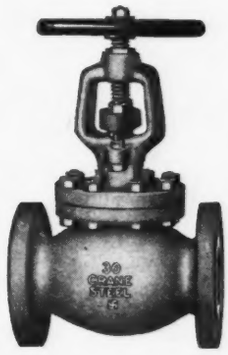
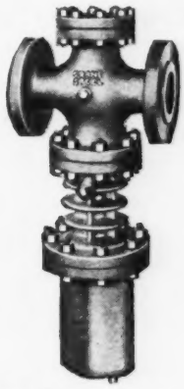


Globe Valve No. 151

Cast steel flanged valve. Forged steel glands generously proportioned. May be repacked while wide open and under pressure. Circular 192.



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Cast steel flanged fittings and flanges are supplied in a complete line for use with hot oil at pressures to 600 lbs. and temperatures to 900° Fahrenheit. Write for Circular 192.

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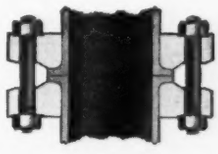

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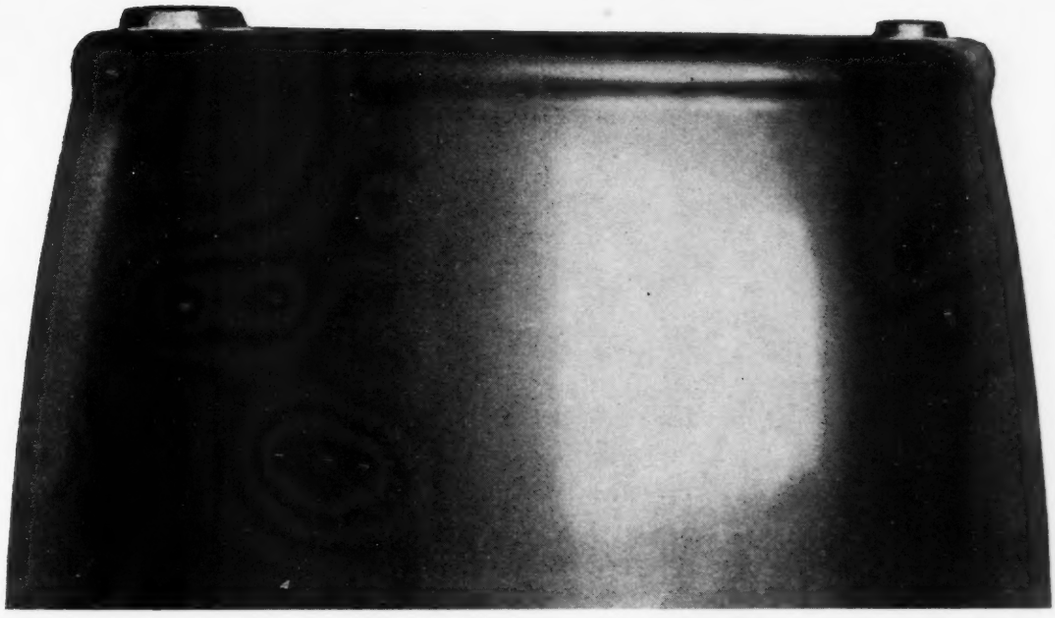

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And this chart shows the reason!

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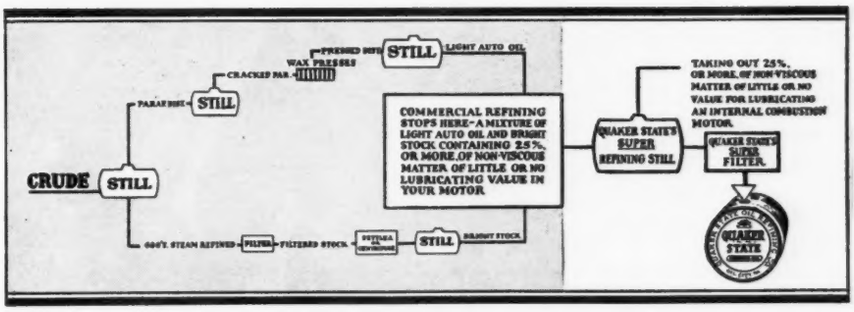
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PARAFFINE
STILL
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WAX PRESSES
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LIGHT AUTO OIL
COMMERCIAL REFINING STOPS HERE—A MIXTURE OF LIGHT AUTO OIL AND BRIGHT STOCK CONTAINING 25%, OR MORE, OF NON-VISCOUS MATTER OF LITTLE OR NO LUBRICATING VALUE IN YOUR MOTOR
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STILL
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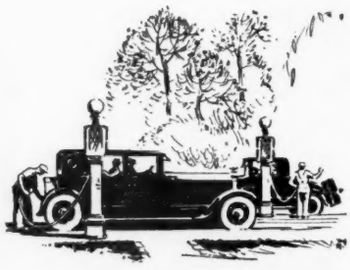

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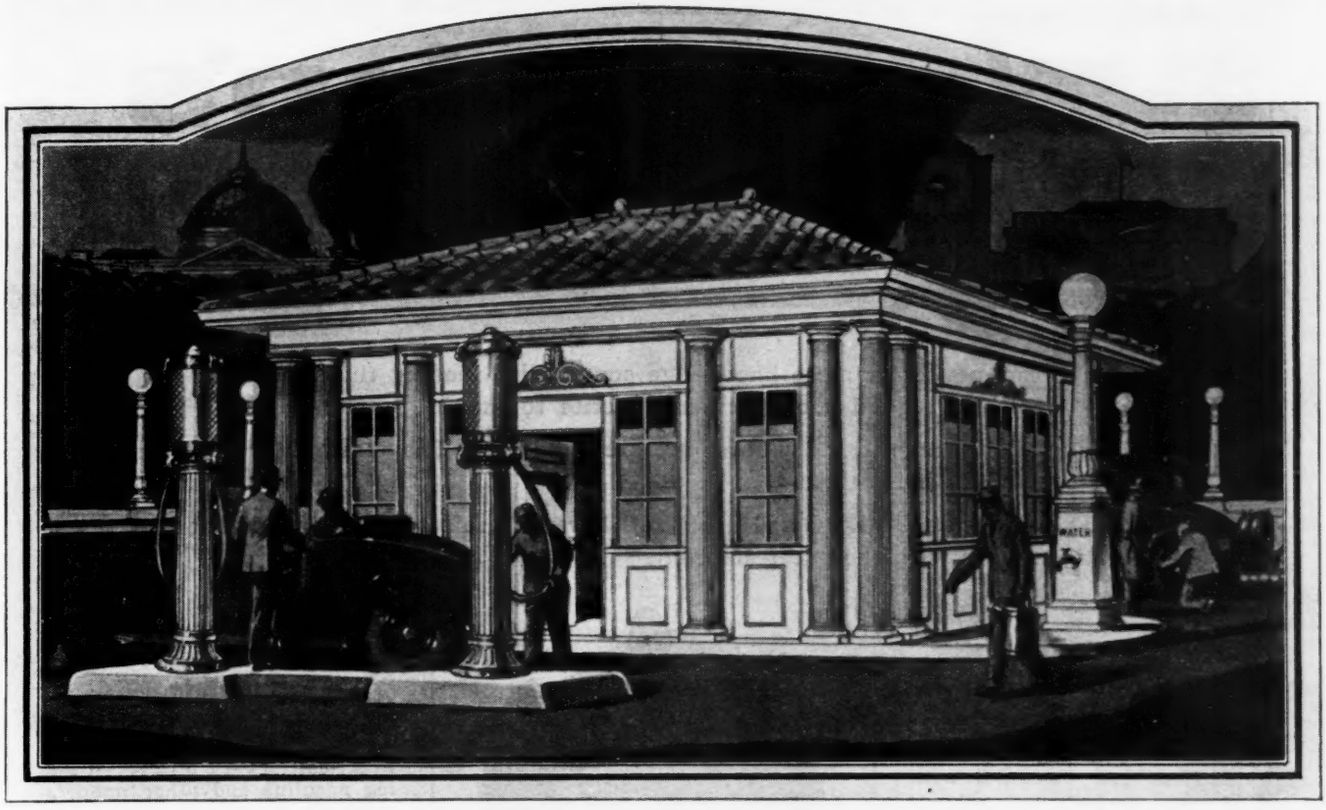

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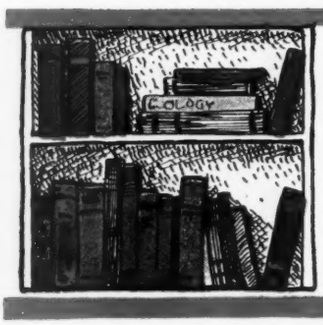

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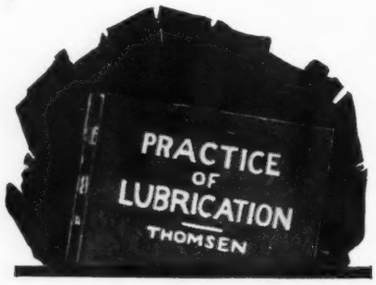

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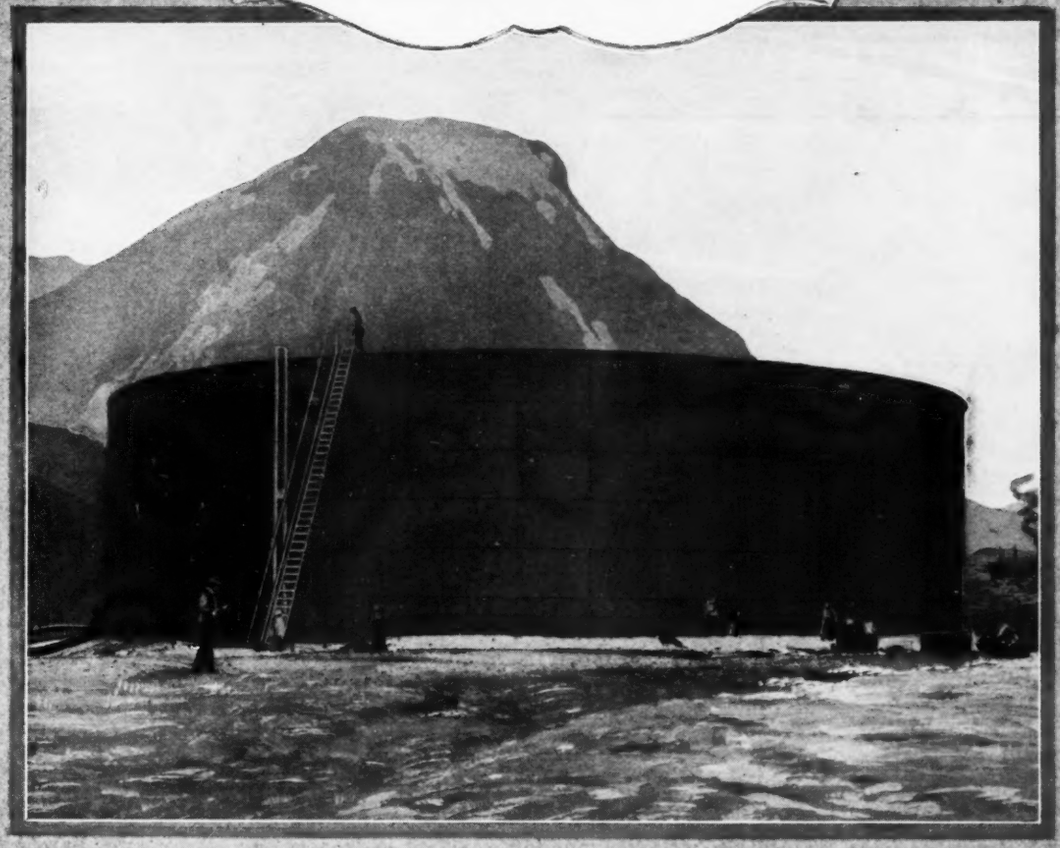

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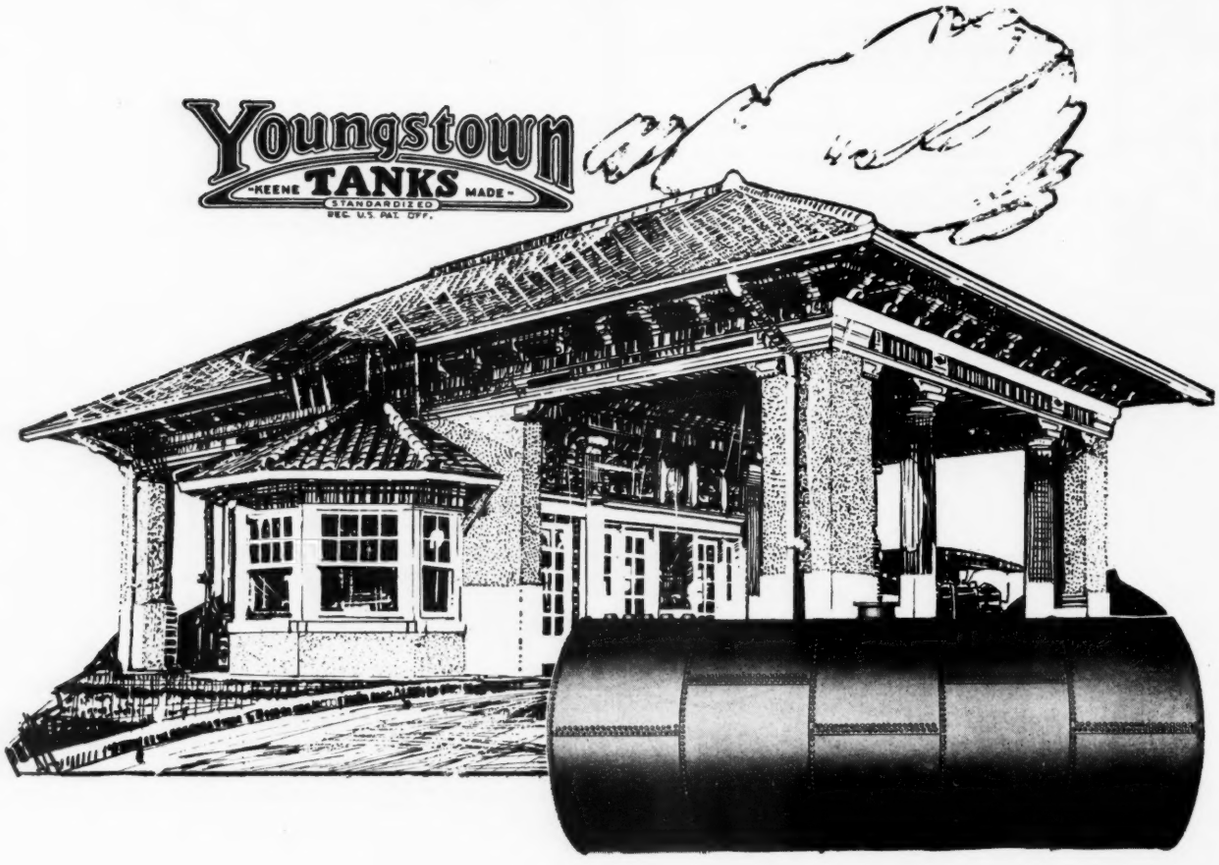

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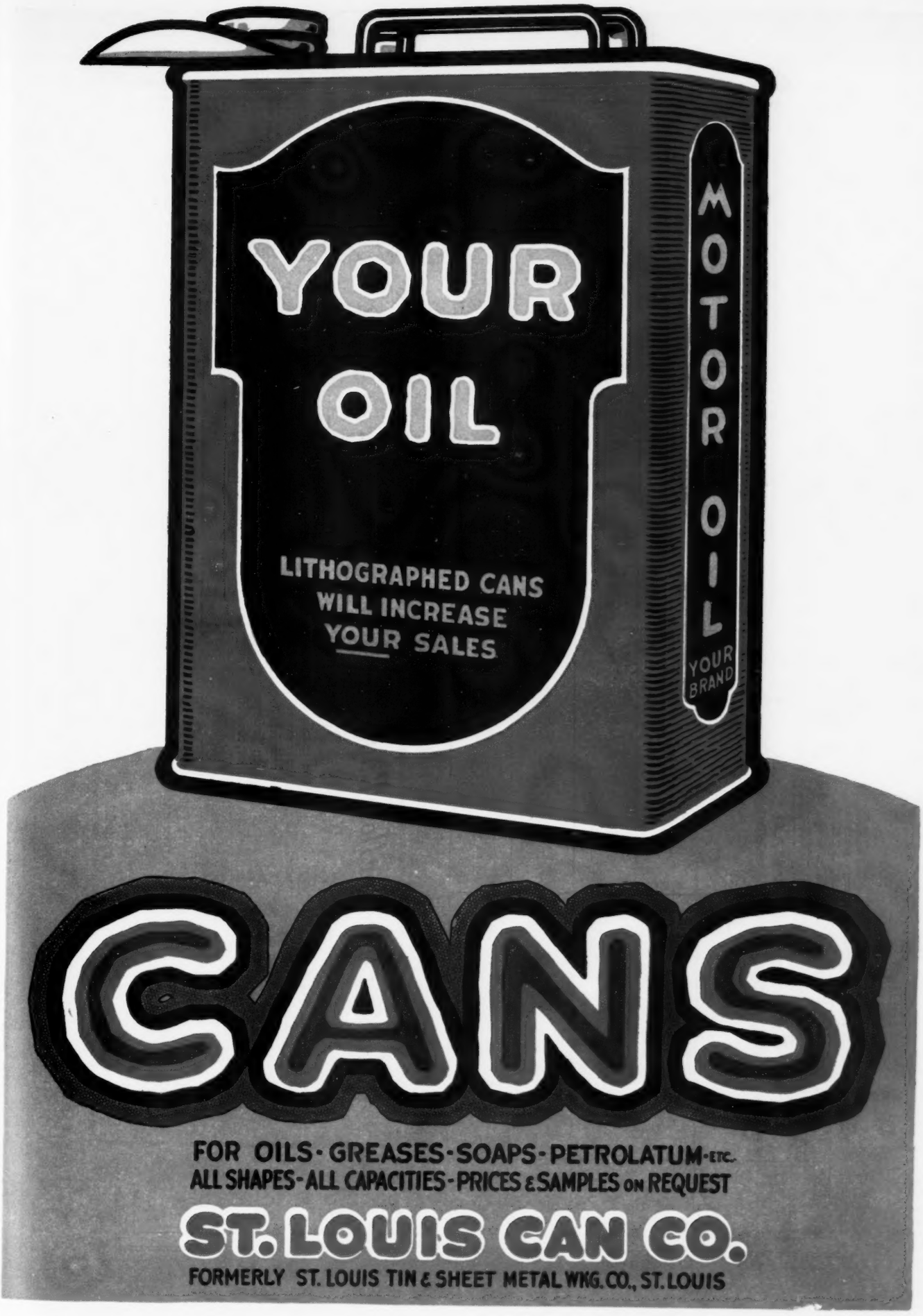
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